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AND

PREPARATION FOR SONG INTERPRETATION

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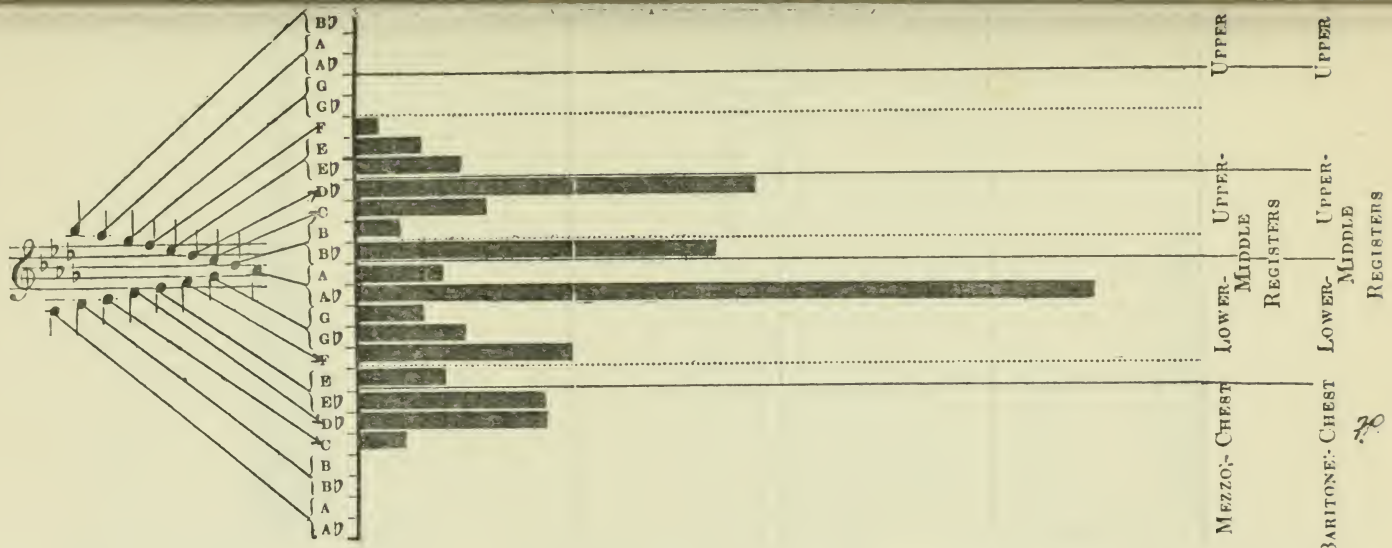
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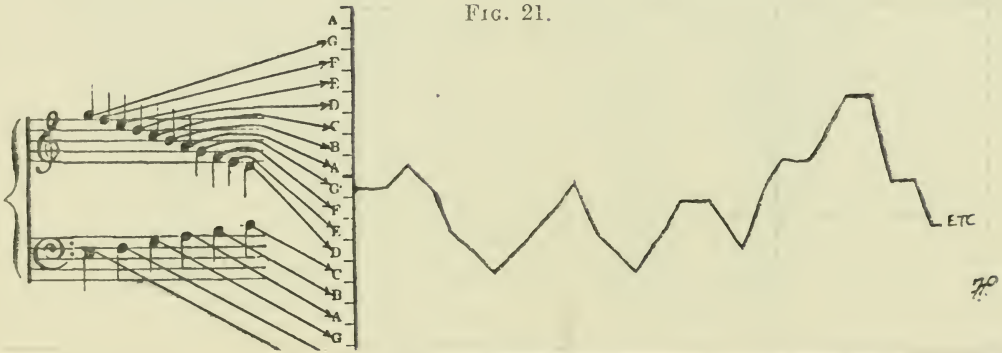
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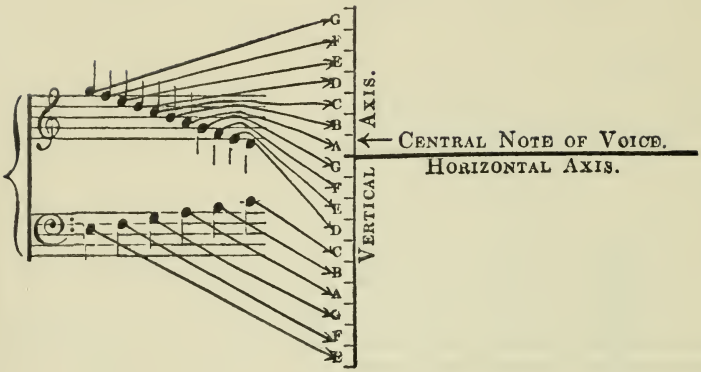

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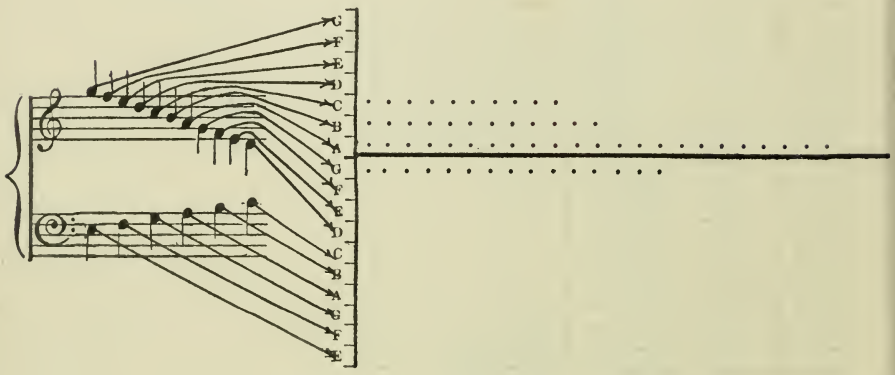

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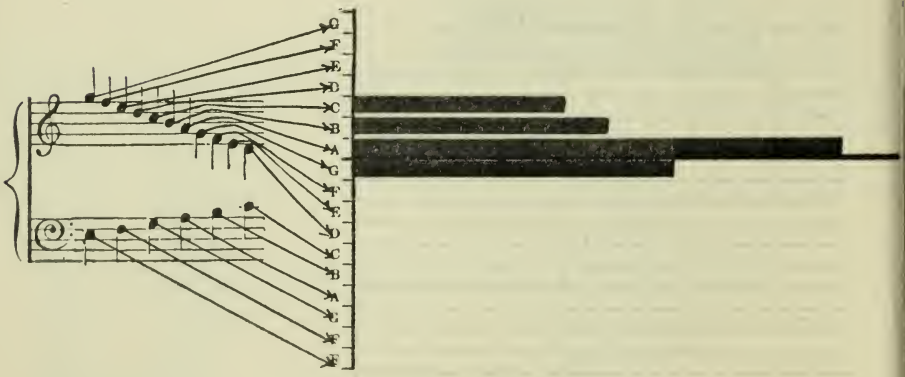

FOREWORD.

THE publication of this work has been prompted by a rapidly increasing tendency on the part of the vocal student not to accept instruction and information on trust. He demands to know the why and wherefore of everything. The satisfaction of that demand must be expeditious and complete.

The author trusts he has been successful in supplying some measure of this demand, and lays claim neither to originality of method nor to special literary achievement. He has endeavoured to provide a means of allowing much of the time ordinarily set aside for the consideration of purely technical points, to be devoted to practical work. The textbook most suitable to meet modern requirements is one which provides a reasonably complete explanation of the technicalities of the subject, but which, at the same time, dispenses with the necessity for the study of technical works on those branches of science which, when combined, form what may be called "Vocal Science"

One cannot learn how to sing from a book, and no work of this nature, however comprehensive and practical, can ever supersede the singing teacher. But there exists a large number of individuals who, although truly interested in the development and training of the voice, are precluded from obtaining the necessary practical instruction from the vocal scientist.

If this work assists the student in overcoming the numerous difficulties which beset him from the very outset of his training, if it is the means of elucidating any vocal problem, whether practical, theoretical or general, or if it supplies the necessary technical information, it will have achieved the object for which it was written.

The author would be guilty of ingratitude if he did not cordially thank those who have contributed in any capacity to this work. Especially is he grateful to Miss Mary Moore for her indefatigable assistance.

FRANK PHILIP.

LONDON, 1930.

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INTRODUCTION.

The Two Aspects of Vocal Training.

THE study of any art involves the fullest training and exercise of the faculties of both mind and body. The study of the art of singing has two distinct aspects. One is concerned with the developing and perfecting of the mental processes and muscular systems involved in the purely mechanical side of voice production, and the other with the musical and artistic training of the mind.

The Creation of Voice.

Voice is created as the result of the action of the parts of the body which together form the vocal apparatus, the activities of which are directed and controlled by the brain. Vocal training is, therefore, a process involving both mental and physical considerations, and its successful issue depends largely upon the manner in which the teachings of vocal science have been followed. As the vocal results approach perfection, so do the mental processes and physical activities which create them.

The Physical Basis of Voice.

Voice has a physical basis. Without the vocal apparatus in the physical sense there can be no voice in the sound sense. The production of voice, in its most elementary form, is a some-

what complex, voluntary muscular operation, and, like all voluntary physical movements, is subject to the control and guidance of the brain.

Singing in the Artistic Sense.

In the artistic sense, singing is the expression through a perfectly functioning vocal apparatus of certain selected ideas formed in the mind by the influence of a logically functioning imagination. Imagination is itself stimulated into activity by the singer's reconstruction of the feelings and emotions portrayed in the words and music of vocal works. This reconstruction stimulates in the artistic mind mental pictures and æsthetic thoughts similar to those which inspired the composition. The unhampered discharge and physical expression of these reconstructed ideas result in the artistic interpretation of the particular vocal work considered.

The Mental Basis of Singing.

Such singing has a mental basis. Without insight and vision there can be no singing in the artistic sense. Without a mind trained in certain directions, there can be no singing with true understanding. Singing without a fullness of understanding can never be artistic. Without a voice adequately developed in the physical sense there can be little singing in the musical one. The preparation of this psycho-physical basis of voice production, and the preparation of the mental basis of artistic understanding are of equal importance, their joint development being the only sure way of consolidating vocal progress.

Mental and Physical Training Necessary.

Thus the study of singing involves both mental and physical training, the development of the one depending upon the progress of the other. The presence of a reasoning and logi-

cal imagination suitable for the artistic interpretation of songs, depends largely upon the manner in which the student has been encouraged to think, and upon the extent to which the artistic directing of his thoughts has been carried.

Mental Control of Interpretation.

The interpretation of artistic ideas requires to be supervised and controlled by the brain. It demands both complete concentration of thought and undivided attention. The required attitude of mind is possible only when the direction of the artistic interpretation of the song is the one thought uppermost. If any other thoughts are allowed to usurp the attention the line of concentration becomes diverted and the mental control wavers.

Sub-Conscious Control of Voice Production.

By a sufficiency of accurate repetition and practice, the mental processes which control the muscular activities involved in the production of voice, can become absorbed by the sub-conscious mind. The vocal apparatus then requires merely the starting off impulse to stimulate it into action. It is only after the mental control of the purely physical production of voice has been thus relegated and maintained without thinking that singing, in the artistic sense, becomes possible.

Objects of Vocal Training.

The transferring of the mental control of any complex movement from the conscious to the sub-conscious mind can be accomplished only by accurate and adequate practice. It is common knowledge that the more frequently anything is done in exactly the same way, the easier does succeeding performance become. Almost any muscular movement of the body can be transferred to sub-conscious control by the process of repetition.

The primary objects of vocal training are, consequently, (a) so to train the brain that it becomes capable of directing and controlling the functioning of the vocal apparatus sub-consciously, (b) so to develop the vocal apparatus physically that it responds instantaneously to that sub-conscious direction, that it becomes adequately enough strengthened muscularly, successfully to meet all demands likely to be made upon it by the musical and dramatic construction of the songs. The ultimate aim of vocal study is the development of the mental and physical vocal equipment to its fullest capacity. After the successful completion of this training the voice may be adopted as the medium through which all finer thoughts and ideas may be afforded an outlet and may be transmitted to others for artistic purposes.

* * * *

The Foundation of a Method.

To be successful, any method or system of vocal development must be founded and based upon the laws and teaching of vocal science. Vocal science is composed of a combination of certain branches of certain specific sciences. It has been founded and built upon acknowledged truths and facts, proved correct beyond doubt by induction, experiment, observation and practical experience.

Vocal Science.

The sciences, the branches of which co-operate in the formation of vocal science and which are applied only in so far as they relate to singing, include psychology, the science which treats of mental phenomena, phonology, the science of articulate sound, physiology, which deals with the functions performed by the various parts of the body, anatomy, which deals with the structure and relations of these various parts, and acoustics, which includes the science of sound.

The Physical Expression of Ideas.

Normal transmission of thought is accomplished by voluntary physical activity. It is circumscribed by the physical limitations and by certain other influences. Each thought selected for transmission has its own particular physical display. Each vocal thought and display together demonstrate the application of some particular branches of the sciences combined in vocal science. The body depends upon the mind for the conscious and sub-conscious direction and control of all its activities. The normal functioning of both mind and body depends upon a mutual association and relation. In vocal training certain branches of psychology, physiology and anatomy are applied, the mind training the body and the body indirectly training the mind.

Mental Control of Physical Activities.

All physical movements, other than those controlled reflexly (such as the action of the heart and internal organs, etc.) emanate from the brain, and are, in varying degrees, mentally directed. Each physical movement is the result of the discharge of certain motor impulses to the muscles of the member involved.

Voice and Singing.

Voice becomes singing when the direction of these nerve impulses is so controlled that the resulting physical movements create the audible expression of song ideas which have been stimulated into existence by the mental consideration and treatment of sense messages from without, and impulses from within.

Phonology.

Phonology treats of the analysis of all physically produced sound with a view to improvement in quality and in method of production. The more exactly this science is applied to

vocal training, the greater will be the benefit derived by the organs of speech, in tone as well as in health.

Acoustics.

Acoustics deals with the laws and principles governing the mechanical production of sound. The original results of the action of the outgoing breath upon the vocal cords are considerably modified before they become voice, and the extent and influence of those modifications are governed by the laws of acoustics. It is upon those laws that the correct method of utilising the vocal resonance cavities is founded.

Mental Preparation for Voice Training.

The ideal preparation of the brain for the directing of the training of the voice can be accomplished only by acquiring a knowledge of the particular branches of the sciences mentioned. An attempt has been made in this work to supply the student with all essential information.

* * * *

Advantages of a Trained Voice.

The voice constitutes the medium through which the thoughts are transmitted and forms, when properly developed, the most forceful element of the personality. The cultured voice is a dominating force in almost every walk of life. It is not unusual to find the poor voice and the good brain taking second place to the fine voice and the average mentality.

Music is the art which makes the most direct appeal to the human emotions, and no branch of that art is more far-reaching in its particular appeal than singing.

Singing implies the satisfaction of an emotional necessity in the singer and stimulates in others those sympathetic and finer feelings which tend to elevate the mind and spirit.

STUDENT'S MENTAL PREPARATION.

Before the student sets out on his journey towards the goal of his studies, he should prepare his mind for the proper direction of his vocal development by acquiring a knowledge of vocal science as a science. He can then apply that knowledge to his training as a singer. If he has been endowed by Nature with such gifts as are essential—an artistic temperament, musical ability, magnetism of personality, and a vocal organ of quality—he will be destined to become a true exponent of the singer's art.

Chapter I.

SOUND, VOCAL TONE AND RESONANCE.

Classification of Sense Messages.

THE classification by the brain of all sensations stimulated by external conditions and received through the sensory organs, is determined according to (a) the organ of sense by which they are received, (b) the nature of the stimulus employed, and (c) the medium through which the sensation-stimulating force is transmitted.

The Sensory Organs.

The sensory organs consist of the eyes, the ears, the mouth, the nose and the skin, accepting sensations of light, sound, taste, smell and feeling respectively. Each organ is capable of dealing with one particular external stimulus only, and each stimulates in the brain sensations of its own particular classification. The eyes accept the sensations stimulated by light and the ears by sound. None of the sense organs usurps the functioning of another.

One activity may stimulate, however, two or three sensory organs simultaneously, creating a like number of mental sensations. The sensations stimulated by the rays of the sun may be received by the organ of sight and the organ of feeling simultaneously and be classified by the brain as light and heat.

The same dual acceptance may be found in the case of a body vibrating at a low frequency, as, for example, the lower copper-bound strings of the piano, which, if lightly touched when in vibration, can be felt by the skin as a whirring sensation and be heard by the ear as a sound possessing pitch and musical quality. When these vibrations are sufficiently slow, three sensory organs may be stimulated by adding to the two already mentioned the organs of sight, which may be able to see the string in motion.

But throughout these examples only one sensation is accepted by one sensory organ. The skin feels the sun's rays as heat and not as light, the eyes see them as light and not as heat, etc. Each sensory organ acts, in its own special way, as the medium through which external stimuli are accepted for consideration and recording by the brain. The impressions recorded there vary in quality, according to the sensitiveness of the particular organ to the stimuli. The eye of the artist is trained to see and appreciate beauties which are invisible to the ordinary man. The ear of the musician is trained to hear and appreciate beauties in music unrecognised as such by the ordinary listener. Only the specially trained mentality can accept and correctly analyse all the sensations received through one or more sense organs. The normal eye sees and the normal ear hears, but the mentality, developed in particular directions, is required if all messages passed on by them are to be fully appreciated.

The most primitive forms of eye sensations are those of brightness and darkness. The experienced and educated eye can, however, accept and pass on to the brain much more complicated sensations. It can distinguish not only the different degrees of brightness and darkness, but also each of the some thirty thousand shadings and blendings of the three prime colours.

The Ear's Acceptance of Sound.

In so far as singing is concerned, the most important sense messages are those received by the ear. All ear sensations and the external atmospheric disturbances in which the stimuli originate, are called sound.

The most elementary distinctions of ear sensations are those of sound and noise. The former is the sensation for present consideration. Just as an experienced and educated eye can perceive a great variety of shades of light, so an experienced and educated ear can hear as great a variety of qualities of sound. No difficulty should be experienced by the normal ear in differentiating between sound and noise.

The sensations of sound and noise are seldom received separately, but usually together. Their classification as sound or noise depends upon whether the stimuli-creating agency is vibrating regularly or irregularly. The sensations which the brain classifies as noise are experienced as irregular successions of different sounds of irregular strength and frequency. Those classified as sound are of undisturbed regularity; of uniform frequency and pleasant to receive.

The Cause of Sound.

The immediate cause of sound is the sufficiently frequent and forceful vibrating activity of some body. This activity creates in the atmosphere sound waves which travel from their point of origin similarly to the waves created upon the surface of a pool of calm water by the dropping of a stone into it. These surface waves expand with an ever increasing diameter and with an ever decreasing force from the point of the stone's contact with the water until they fade out, if the surface of water is extensive enough, or break upon the shore of the pool. The shock waves created by the contact of the stone with the water

extend horizontally over the surface of the pool. The sound waves created by the disturbance in the atmosphere travel spherically. In the former case, the water acts as the medium through which the shock of the stone's contact with it is transmitted in the shape of surface waves to anything which may be floating upon it and within range, causing it to rock in sympathetic motions. In the latter case the atmosphere acts as the medium through which the vibrations of a body are conveyed to the ear, in the form of sound waves, causing its mechanism to vibrate in sympathy. Thence the vibrations are transmitted through the auditory nerves to the brain, where the sensations are classified as sound or noise according to their regularity or otherwise.

Composition of Sounds.

Most of the sounds which we hear, whether musical sounds or noises, are composed of a number of simple sounds. The relation of these simple sounds the one to the other, creates the distinction. A number of sounds which, when singly sounded, produce obviously musical tone, can produce noise if sounded simultaneously. For example, if all the notes within one octave of the piano are sounded simultaneously, the result is anything but musical sound. When separately sounded, or in certain relation to each other, they produce a musical sound pleasing to the ear. The sound produced by one string of the piano is "compound" on account of its internal form. In a compound sound several simple sounds are combined in certain relations.

An example of a simple sound is found in the tuning fork. The prongs of the tuning fork move to and fro pendularwise on being struck at their lower extremity. The rapidity with which they swing depends upon the size and thickness of the prongs. The extent or amplitude of the excursions depend

upon the force with which they are struck. Certain atmospheric disturbances are created. As each prong moves in the one direction it forces the air immediately next to it into a layer of compression similar in shape to the outer surface of the advancing prong. As soon as the prong completes its journey the one way, it immediately commences a return movement to the point from which its first excursion outwards originated. Passing that point, it travels in the opposite direction but, on account of the gradual expenditure of the original force, to a slightly decreased extent. The layer of air originally compressed by the first movement submits to its natural tendency to expand itself into the space vacated by the prongs' excursion in the opposite direction. Thus atmospheric waves of compression and expansion are created until the force which stimulated the tuning fork into activity, becomes spent. These waves advance spherically from the vibrating prong. Upon reaching the ear they cause certain parts of its construction to vibrate in sympathy. When these atmospheric movements acquire a certain velocity and proceed with perfect regularity we hear a musical sound.

Sound is composed of atmospheric waves of condensation and rarefaction successively, the air moving in the same manner and at the same rapidity as the vibrating body.

The Propagation of Sound.

The propagation of sound depends upon the conducting qualities of the medium through which it is conveyed. In the absence of such medium sound is impossible. Vibrating bodies, placed in chambers from which the air can be completely extracted, gradually cease to rouse the sensations of sound in the ear as the air becomes exhausted. Conversely, they gradually return to their normal strength of sound as the air is allowed to regain atmospheric density. Sound can be transmitted

through several mediums (e.g., water, earth, metal, solids),* but as far as singing is concerned, the propagation of vocal sound depends upon the presence of the atmosphere.

Compound Sounds.

When several simple sounds, in certain pitch relation to one another, are used in combination they form what is called a compound sound. Almost all musical instruments produce compound sounds. When the piano string is set into vibration it not only moves pendularwise—i.e., from side to side like the prongs of a tuning-fork, but also executes a series of complex and intricate movements. It vibrates from side to side in its whole length, up and down, in segments of varying length, etc., each movement producing a simple sound. Each of these simple vibrations creates a note of a pitch and quality of its own, but on combining to make the compound sound each loses its individuality of pitch and quality, and we hear one compound sound. The lowest of these contributory sounds is created by the strongest vibrations and is known as the prime note. It determines the pitch. The other simple sounds of which the compound sound is constituted, and which individually sound a higher pitch than the lowest of the many sounds which constitute the compound sound, are called the upper partials of that sound.

Prime-Note and Upper Partials.

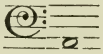
Each upper partial has a definite pitch of its own. Each exercises an influence over the tone quality of the sound pro-

---

* Sound travels in air with the temperature at freezing point, i.e., 32° Fahrenheit, at 1,090 feet per second. Each rise of 1° in temperature increases the pace by about 1 foot per second. In water it travels 5,000 feet per second, in wood, along the grain at about 14,000 feet per second, and in metals about 16,000 feet per second.

duced; the higher the individual pitch of the upper partial the less the influence. When one compound sound is created, such as that produced by one string of the piano, the ear actually accepts quite a number of sounds—i.e., a prime note plus its upper partials—not one single sound. The vibrations of the upper partials maintain a velocity in certain ratio to the number of vibrations executed by the prime sound. The first upper partial, which is one octave higher in pitch than the prime note, executes double the number of vibrations of the prime note, the second upper partial, which is one-fifth higher than the first, executes three times the number of vibrations, the third upper partial, four times the number, the fourth, five times, and so on, the higher upper partials becoming fainter and fainter the higher their pitch is from that of the prime note.

Analysis of Compound Sound.

The following analysis of the construction of the sound produced by the note  on the piano is of interest (taking the tuning pitch of the piano in which A above middle C executes 440 vibrations per second):

A, the prime note gives (on that particular tuning) 110 vibrations per second.

A, octave, gives twice that number, or 220 vibrations per second.

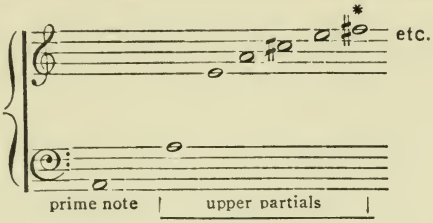
E, the second partial, gives three times that number, or 330 vibrations per second.

A, the third partial, gives four times that number, or 440 vibrations per second.

C sharp, the fourth, partial, gives five times that number, or 550 vibrations per second.

E, the fifth partial, gives six times that number, or 660 vibrations per second.

And mid-way between F sharp and G the sixth partial gives seven times the number of vibrations per second, or 770 vibrations, and so on, and on. The analysis of the compound sound A in musical notation would be as follows:



This whole combination of sounds, each constituent part sounding simultaneously and being in certain relation to every other, stimulates the sensation in the ear which is classified by the brain as a single sound possessing certain musical qualities. The quality of a musical sound depends upon the augmentation of the prime note quality by the upper partials. The quantity of these upper partials depends, *inter alia*, upon the density, tension and composition of the vibrating body and the internal form of its vibrations. The force with which the upper partials sound depends upon the point at which the body is struck, the nature and force of the shock, and the amplitude of the vibration. The richer the note is in these upper partials, the better is the quality of the tone produced.

Upper Partials in Voice.

The sound produced by the human vocal apparatus possesses more upper partials than that produced by any musical instrument. It is thus endowed with tone qualities such as are created by no other sound-producing mechanism. Vocal tones are all compound in their construction.

---

* The pitch of the last upper partial lies between F sharp and G. G has actually 792 vibrations, but the seventh upper partial of A has slightly less than that number, viz., 770.

The atmospheric waves created by compound sounds are much more complex in their internal form than those created by simple ones. As these sound waves follow their natural course of expansion, ever increasing in their spherical diameter and ever decreasing in force as they extend from their point of origin, they come into contact with and surround everything within effective range.

Sympathetic Vibration.

It is interesting to note that, if the natural sounding* pitch of bodies thus met is similar to that of the note sounding, they, in the absence of any damping interference, will immediately re-sound the original note. This re-sounding is known as sympathetic vibration. A simple example of sympathetic vibration will be found in the action of the piano strings in the following experiment. By pressing down the sustaining pedal, the pads of felt which lie upon the strings and which constitute the systematic damping to which the piano is submitted, are lifted from the strings. When these have been thus freed, a note of considerable strength and firmness is sung at one steady pitch. When this note is silenced, the strings, whose natural pitch corresponds either to the pitch of the note sounded or to its upper partials, will continue to vibrate, re-sounding the note. The re-sounded note gradually fades in strength, but not in pitch, as the force of sound-waves created by the voice becomes spent. (It is imperative, of course, that the dampers be kept off the strings during this experiment). Many other examples of sympathetic vibration might be quoted.

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* Bodies in vibration are inaccurately although usually spoken and thought of as actually sounding. They merely produce vibrations which must find contact with the living ear and be transmitted to the appreciating brain before they become sound.

Lamp globes can be made to hum and even break in this manner; ornaments can be caused to re-sound a note sung.

The Ear and its Great Importance in Singing.

The human ear is extremely responsive and sympathetic to this form of vibration. The construction and anatomy of the ear is both interesting and instructive, and may be studied by the student with great profit. The singer depends upon the ear for guidance in everything pertaining to the improvement of his voice production, for intonation, tone quality, vocal colour, maintenance of pitch, clarity of diction, and, in fact, for everything in singing except the actual mechanical production of the voice.

Briefly, the ear is divided anatomically into three compartments; the external ear, the middle ear, and the inner ear. The external ear consists of the auricle and the external auditory canal. The auricle collects the sound-waves from the atmosphere and directs them through the external auditory canal towards the drum skin of the ear which separates the external from the middle ear. The drum skin is continuously in contact with the three bones or ossicles of the ear, and its vibrations are transmitted through them to the perilymph, a liquid surrounding the inner ear. The waves formed in the perilymph produce corresponding vibrations in the endolymph, which fills the inner ear and covers the organ of corti, which is the organ of hearing. The organ of corti is made up of two sets of hair cells numbering between fifteen and sixteen thousand.

Thus the organ of hearing may be compared to an intricate piano having about sixteen thousand strings, each of which is capable of vibrating in sympathy, singly or in combination with others, to all sound phenomena. These sympathetic vibrations are conveyed from the organ of hearing to the brain

by the auditory nerves. The brain classifies the sound messages thus received according to the degree of alertness of the ear to the particular stimuli, and according to the sound appreciation ability of the brain, some people being able to hear higher and lower sounds than others.

If the ear is within effective range of a note being sounded —if the individual is within earshot—the expanding sound-waves stimulate certain of the hair cells into vibration, and a sound is heard. The sympathetic vibrations of the hair cells are different from those of the piano strings or other sympathetically vibrating bodies, the re-sounding of which continues until the force which created it becomes spent, or until it is voluntarily stopped by damping, in that they cease instantaneously with the sound, thus enabling the ear to distinguish with comparative ease each of a very rapid succession of sounds.

But there is also something more and of much greater importance to the vocalist. Instantaneously upon reception the trained ear classifies every sound under three main headings, viz., (1) strength; (2) pitch; (3) quality.

Strength of Sound.

The strength, volume and intensity of the sound depend upon the amplitude of the vibrations executed by the sound-creating agency. That is, upon the distance the vibrating body travels to and fro from the extreme of its excursion one way to the extreme in the opposite direction. This variety of amplitude, resulting in a corresponding variety of strength and intensity, depends upon the force by which the vibrating body is set into motion originally. The stronger the force, the greater the amplitude and correspondingly greater is the strength of the resulting sound. The agency which controls the force by which the piano strings are struck—i.e., the hand

—also controls the strength of the note created. The agency which controls the force by which the voice is caused to sound —i.e., the breathing muscles—also controls the strength of the vocal tone.

Pitch of Sound.

The pitch of the sound depends upon the speed of the vibrations. The regulation of the speed regulates the frequency of the sound waves created. In stringed instruments the speed of the vibrations depends upon the size, length, density and construction of the strings. The shorter the string, the higher the note, and vice versa. In wind instruments the speed of the vibrations depends upon the size of the reed or flute lip and upon the diameter and acoustical length of the resonators.

Quality of Sound.

The character and quality of the note depends upon the internal form of the vibrations. The piano string creates sound-waves of a different internal form from those of the violin. Those of the reed organ pipe are different from those of the flute class of pipe. Each instrument produces sound-waves bearing its own characteristic tone.

Ear Analysis of Sound.

Although vibrations differ so much in character, they may be similar in strength and pitch.

We depend entirely upon the ear for the recognition of differences in strength, pitch and qualities in sounds, for the analysis of their character and for the estimation of their musical worth. The training of the ear in this respect is obviously essential to vocal progress. The higher the standard of tone perception the more severe will be the analysis to which the vocal tone can be submitted.

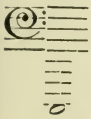
LIMITS OF PITCH.

The pitch of sounds classified by the ear as musical tone is very circumscribed. Of the sixteen thousand different pitches which the ear can recognise, only about one hundred are used in music, those outside that limit being unmusical or difficult to appreciate. The lowest note which the normal ear classifies as musical, executes a little over thirty vibrations per second. Sounds created by vibrations below that frequency can neither be recognised as musical nor can their exact pitch be determined by ear with certainty. They either develop into a drone or into a throbbing.

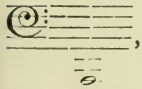
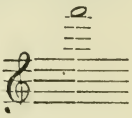
The lower note of the 32 feet pipes of the modern organ executes 16.5 vibrations per second. Notes in the vicinity of that pitch can hardly be classified in themselves as musical sounds. They are used in conjunction with their higher octave to add resonance and volume. The lowest note of the lowest instrument in the modern orchestra—the double bass—executes 41.25 vibrations per second, and is recognisable by the ear as a sound possessing both tone quality and pitch. The lowest note of the modern piano executes 27.5 vibrations per second. As it is in such close proximity to the limits of the power of the ear to recognise musical tone, its musical character and worth are usually doubtful.

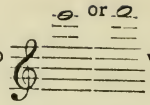
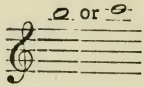
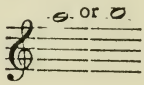
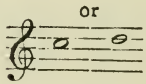
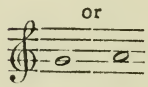
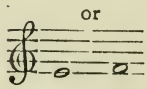
It is recorded that tones have been created by tuning forks higher than seven octaves above middle "C" executing over 40,000 vibrations per second, and which, although unfit for musical purposes, are audible. The highest note in the orchestra reaches a velocity of 4,752 vibrations per second, and is sounded by the piccolo flute. The highest note in the modern grand piano, four octaves above middle "C," executes 4,224 vibrations per second. The ear can distinguish pitch in sounds executing from about 20 to about 40,960 vibrations per second extending over some eleven octaves.

The limits of the pitch of sound that can be considered fit for musical use are restricted, however, to those which stimulate pleasant sensations. Consequently the actual compass of perception of musical sounds varies with the individual.

It is not until the number of vibrations per second reaches between 30 and 40 that the ear receives a really satisfactory and pleasant sensation of musical sound. This is continued until the vibrations per second exceed 4,700. The musical compass is thus limited to seven or eight octaves, from  giving about 33 vibrations per second, to about giving 4,224 per second.

COMPASS OF THE VOICE.

The compass of the human voice is much more restricted, as it is governed entirely by the physical limitations of the human vocal apparatus. The lowest bass voice produces  , which executes 55 vibrations per second, although in isolated cases lower notes have been sung. The highest note of the soprano voice has been known to reach  executing approximately 1,760 vibrations per second. The tones of the human voice extend over some five octaves, executing from about 55 to about 1,760 vibrations per second. This compass is considerably within the limits of the aural perception of musical tone. In the untrained voice the compasses are more limited. In trained voices the compasses usually found are shown in the following table, although in certain instances these compasses are exceeded and notes can be successfully produced higher and lower.

Sopranos from		with 220 vib. per sec. to		or		with 1320 or 1408
Mezzos from		,, 198 ,, ,, ,,		or		,, 990 ,, 1056
Contraltos from		,, 176 ,, ,, ,,		or		,, 880 ,, 990
Tenors from		,, 110 ,, ,, ,,		or		,, 528 ,, 594
Baritones from		,, 88 ,, ,, ,,		or		,, 396 ,, 440
Basses from		,, 61.875 ,, ,,		or		,, 330 ,, 352

The compass to which any one voice may be developed depends upon the extent to which the muscles of the particular vocal apparatus can be trained and upon the efficiency with which the individual can utilise the vocal resonance cavities.

Production of Musical Sounds.

Musical sounds can be produced in several ways. By the vibrationary movements of bodies of the tuning fork variety, by stretched strings, as in the piano and violin, by the direction of a column of compressed air against the free edges of an elastic plate or reed, as in certain of the pipes in the pipe organ, as well as many instruments of the orchestra, by the direction of a similar column of air against the sharp projections or lips of the flute variety of instruments, by the direction of a column of air at a pressure which can be varied and

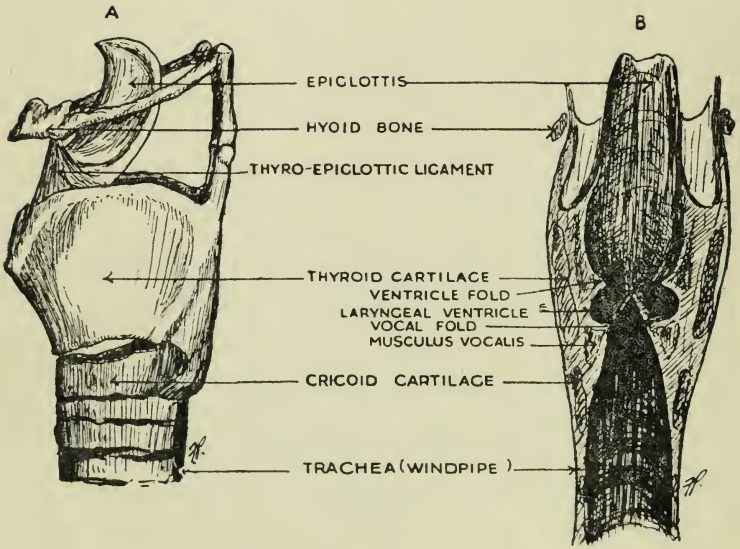
directed at will against the free edges of membranous folds, as in the case of the voice, by striking stretched membranes, as in the drum, and solids, as in the bell.

INFLUENCE OF RESONATORS.

Most sound produced for musical purposes derives its characteristic qualities from the resonance chambers with which the sound-producing parts of the particular instrument are associated. The violin derives its tone from its sound-box. The strings are set into vibration by the action of the bow. These vibrations, which are transmitted by the bridge and sound-post to the shell of the sound-box, cause the air enclosed therein to resonate. Thus is the tone of the violin created. In the reed instrument, the reed is set into vibrationary movements by the pressure of a column of air driven against it. The movements of the reed, and its relation to the other parts of the instrument in its immediate vicinity, allow this compressed air to discharge itself into the resonator chambers situated above in a series of puffs at a frequency and in a volume according to the air pressure and the construction and size of the reed. The resonator chambers vary in size, shape and construction according to the instrument. They can be readily recognised in the church organ as the cylindrical or cubical shaped upper parts of the pipes. In the flute instruments, the air is broken up into puffs by its more or less violent contact with the sharp edges of the lip of the instrument, causing the air inside the resonance chambers to resonate, creating the sound.

The voice is in a class by itself. The reed organ pipe resembles it more closely than any other instrument. The reed organ pipe is supplied with compressed air from the wind-chest of the organ, which is conducted to the reed by certain tubes. The action of the column of air upon the reed causes it to vibrate. In so doing, it divides the passing air into a series of puffs.

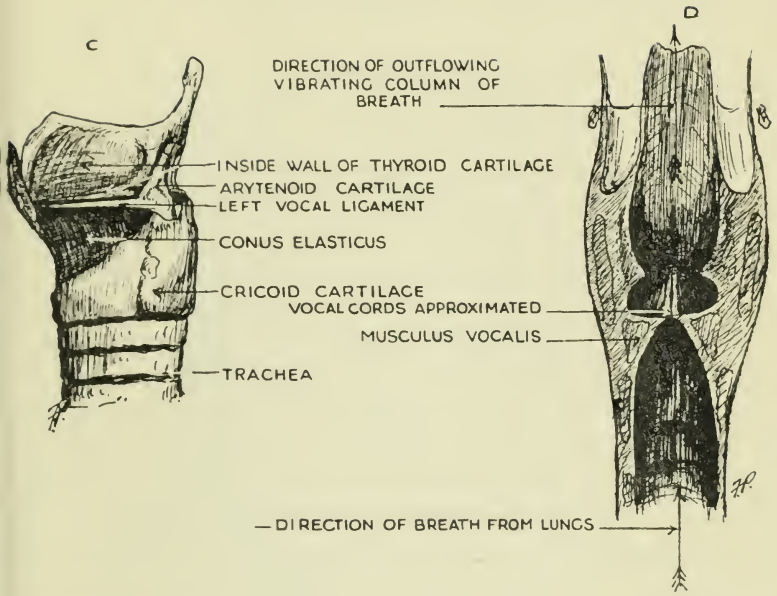
DIAGRAMS OF THE LARYNX.



Larynx from left.

Frontal section through Larynx.

FIG. 1.



Larynx with Left Half of Thyroid Cartilage removed.

Frontal section through Larynx. with vocal cords approximated.

Fig. 1.

The voice has its wind-chest in the lungs. The breath is conducted under pressure to the vocal cords by the windpipe (Figs. 1 d and 2). The windpipe terminates in its upper extremity in the larynx (Fig. 2). The latter is composed of a framework of seven cartilages, which surround, and to which are attached its internal constructions (Fig. 1).

The Activities of the Vocal Cords.

The vocal cords, which are the reeds or vibrators of the voice, are situated inside the larynx. They are attached in front to the inner frontal surface of the thyroid cartilage, and behind, to the two arytenoid cartilages (Fig. 1, c). In inhalation the free edges of the vocal cords lie back towards the lateral inner wall of the thyroid cartilage, advancing slightly in exhalation (Fig. 1, b). For speaking and singing they are approximated at the centre of the glottis (Fig. 1, d). In the production of vocal sound the breath is driven against the under surfaces of the vocal cords causing them to oscillate. This oscillation divides the column of outgoing breath into a series of rapid and regular puffs, which are directed into the resonance cavities of the vocal apparatus, setting the air in them into action and creating vocal tone. The quality of this tone depends almost entirely upon the manner in which the singer directs the out-flowing column of air and the influence exercised upon it by these resonance cavities.

The intrinsic action of the larynx does not come directly under the control of the will, and a detailed description of its mechanism would serve no useful purpose.

Improvement of Intrinsic Activities of Larynx.

No amount of knowing how the larynx functions will assist the student to improve his vocal tone. The intrinsic muscles can be developed and strengthened through voice use only, and

certain vocal exercises have been devised and arranged progressively for the purpose. These exercises are not the results of certain theories as to the internal action of the laryngeal mechanism. They are the fruits of experience and experiment

FRONTAL VIEW OF LARYNX AND TRACHEA.

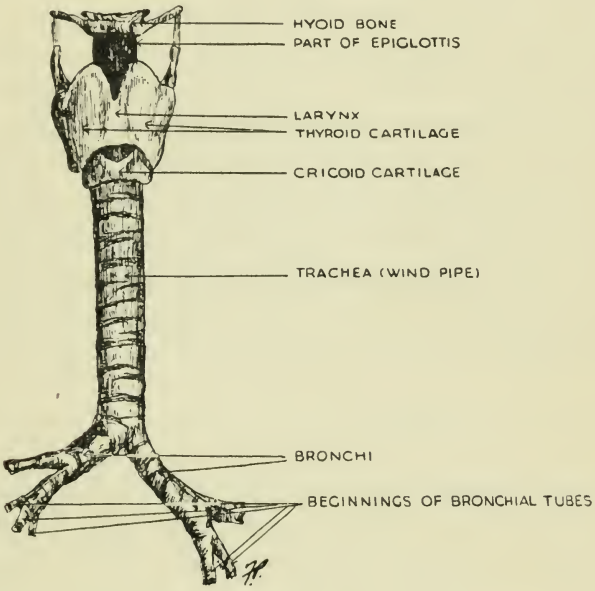


FIG. 2.

in the developing and training of the voice and in the selection of that which is best suited for its advancement and development.

Although the intrinsic action of the larynx does not come within the actual control and direction of the will, the direction of the vibrating breath stream, and the utilisation of the resonance chambers of the voice, certainly do. The voice

neither reaches its fullest development nor displays its greatest beauty of tone until a maximum of resonance has been secured from those cavities.

The volume of the sound produced by the movements of any sounding body can be greatly augmented by resonance. The following experiment will illustrate adequately the influence of added resonance upon a simple sound. Strike a tuning-fork and hold it at arm's length from the ear. If any sound is heard, it will be only a distant humming. Strike the tuning-fork again. Hold it at the same distance from the ear, but place its point upon the upper surface of a violin sound-box (or upon the covering of any hollow box). The strength of the sound will greatly increase and the volume of tone will be greatly augmented. Or, again, strike the tuning-fork, and place the vibrating prongs within some cylindrical or bowl-shaped cavity held above it, and a similar augmentation of tone will result.

Resonators Considered

Vibrating bodies, unassociated with resonance chambers, produce but poor tones. Those which transmit their sounds to the atmosphere through resonators create sounds of character and quality. In almost all reed and membranous musical instruments resonance is procured from a mass of air enclosed by the walls of a particularly shaped resonator situated above the sound-creating point of the instrument. In stringed instruments the resonators—or sound-boxes—are situated below. The greater the variety of differently constructed resonators as regards shape, size, material, etc., the greater the variety of tone quality obtainable.

In the orchestra the clarinet has a cylindrical shaped resonator, and the bassoon a conical one, each producing its own

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characteristic quality of tone. The same variety prevails in the church organ, with its cubical, funnel and cylindrical shaped resonators.

Each resonator, no matter of what shape, being a hollow space, has a resonance note of its own which can be sounded merely by blowing into it without actually sounding the instrument. The pitch of this resonance note can be varied by altering the acoustical length of the resonator. When this acoustical length is in perfect relation to the pitch of the instrument's note, the tone derives a maximum of benefit, and the resonance chamber is then being utilised to its utmost capacity. The human vocal resonators, on account of the comparative softness of their walls, exercise little influence over the actual pitch of the note. The mouth gives the voice the great advantage over all musical instruments, in that the singer is able to adjust this resonance chamber with great rapidity and accuracy to an almost limitless variety of shapes.

The Resonance Cavities of the Voice.

A voice without resonance is a thing dull and lifeless. Its tone is poor and uninteresting, lacking fullness and beauty of quality.

The correct use of the vocal resonators reduces to a minimum the physical effort involved in the creation of a vocal tone of a certain strength at a certain pitch. It encourages the habit of *using* the voice as little as possible and of singing without muscular strain.

The quality, beauty and sonority of the voice depend upon the manner in which its resonance cavities are shaped and used. They form, for all voice users, both speakers and singers alike, that very important part of the vocal apparatus which endows the human being with the ability to modify and transform the

original vocal sound into intelligible and organised voice sounds called speech, providing the medium through which all human thoughts and ideas find audible expression.

The sound-box of the voice is formed by the upper part of the chest. The resonators of the voice are composed of the hollow spaces found inside and above the larynx.

Laryngeal Ventricles.

The first two vocal resonators are situated inside the larynx, immediately above the vocal ligaments. These are composed of two small pouches, the laryngeal ventricles (Fig. 1, b and d). The upper edge of their mouth forms the ventricle folds. They are sometimes called the false vocal cords on account of their close resemblance to the vocal cords and of the fact that they apparently do not directly assist in the creation of voice (Fig. 1, b and d). Between these two ventricles and extending upwards is the glottis, which opens upwards into the lower termination of the pharynx (or throat) (Figs. 1 and 6).

The Pharynx.

The pharynx continues upwards, and passing along the under surface of the soft palate, opens into the mouth.

Nasal Cavities.

Passing over the upper surface of the soft palate, it opens into the cavities of the nose and those found in the lower surface of the skull (the air sinuses), (Figs. 3 and 4).

The Mouth.

The first division in the upward continuation of the pharynx —i.e., into the mouth—after passing the under surface of the soft palate, past the glosso-palatine arch, passes through the pharyngo-palatine arch and past the palatine tonsils, where it

opens into the mouth proper (Figs. 5 and 6). The internal shape of the mouth can readily be ascertained, and the importance of its action in speech and song is well known. The roof of the mouth is formed by the two palates. Arching upwards and backwards, they terminate in the glosso-palatine arch and the uvula (Fig. 5).

LEFT SECTION OF FRONT OF SKULL WITH AIR SINUSES, ETC., EXPOSED.

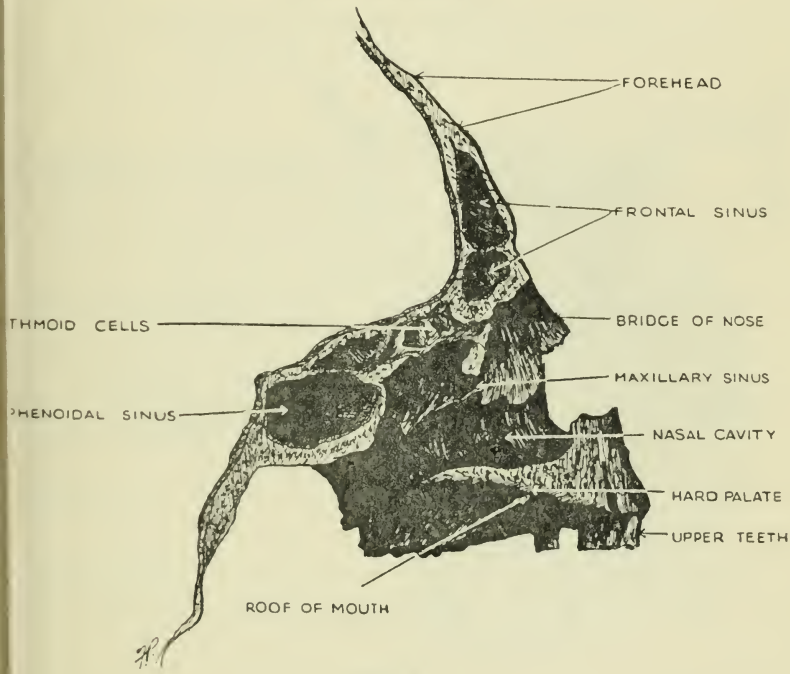


FIG. 3.

THE PALATE.

The hard and soft palates separate the cavity of the mouth rom the cavities of the nose (Fig. 6). Immediately behind he upper teeth the hard palate can be felt by the tongue as a rm osseous construction. As the tongue is passed backwards

over the surface of the roof of the mouth, the hard palate is felt gradually to merge into the soft palate. The latter is felt to be spongy and loose. It is composed of certain muscles and is capable of certain movements important to speech. It can either partially or completely separate the pharynx from the mouth or from the nose. Its activities greatly influence the tone of the voice in both speaking and singing. After forming

FRONTAL SECTION OF NASAL CAVITIES.

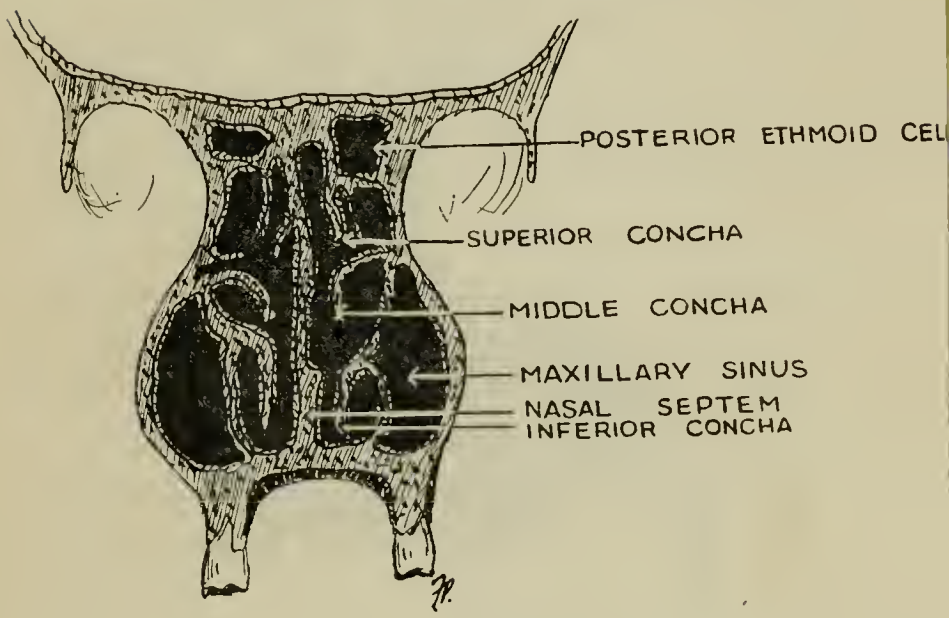


Fig. 4.

the palatine arch, the sides of the soft palate continue downwards into the mouth (Fig. 5). They develop into four thin, sharply defined folds, two on each side, known as the anterior and posterior pillars of the fauces. Between these pillars are situated the palatine tonsils (Fig. 5). The anterior pillars of the fauces are muscles (palato-pharyngeous) which are attached to the throat and to the thyroid cartilage of the larynx.

INNER SURFACE OF CHEEKS.

The inner surfaces of the cheeks, which constitute the walls of the mouth cavity, are composed of tissue and muscle. The condition and position of their inner surfaces exercise considerable influence over vocal tone. If they are braced up, as in the act of smiling (but without any lip movements) they instil into the vocal tone a brightness of quality, otherwise impossible.

DIAGRAM OF MOUTH CAVITY.

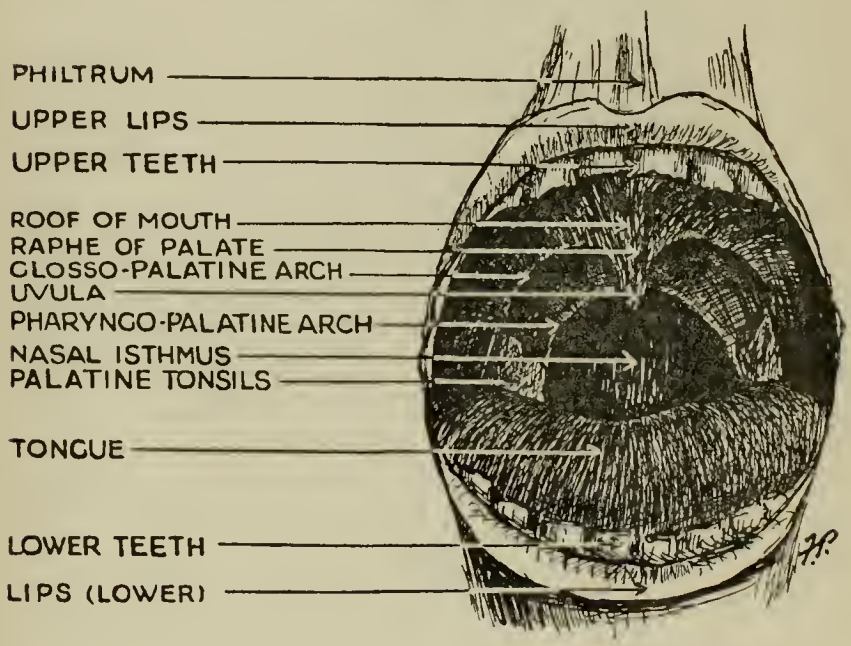


FIG. 5.

THE TONGUE.

The tongue, which covers the floor of the mouth, is made up of a number of muscles of different attachments. It is capable of altering the internal shape of the mouth cavity and its own

position and shape, with great rapidity and accuracy. In co-operation with the lips and soft palate, it controls articulation and diction.

The Lips.

The lips, which form the opening of the mouth, are made up of a number of muscles situated within themselves and a number entering and terminating there. They possess the ability to alter the shape of the mouth opening in a remarkable variety of ways. The repeating of a few words at conversational *tempo*, with a close observation of the co-operative action of the tongue and the lips, will be sufficient to illustrate the rapidity and accuracy of their movements. The teeth are also of importance in articulation and diction.

Shape and Position of Nasal Cavities. The Air Sinuses.

The nasal cavities, which form the higher continuation forward of the pharynx, are divided into two sets by a thin bony partition called the septum (Fig. 4). The cavities of the nose and air sinuses extend to the full breadth of the facial bones, as high as the frontal sinus above the eyes, and as low as the upper surface of the roof of the mouth. From these cavities the voice derives its major resonance.

The nasal cavities, which extend from the nostrils backwards, are long tortuous channels in which are found many bony projections—the turbinated bones (Fig. 3).

The other resonance cavities situated above the palate are found in the under surface of the skull and behind the cheek-bones. They are the air-sinuses, and are in direct communication with the nasal cavities.

Frontal and Maxillary Sinuses.

There are four sets of air sinuses (Figs. 3 and 6). The frontal sinuses are situated immediately above the eyes and

within that part of the head which forms the ridge of the eyebrows. They extend the whole length of that ridge in a variety of diameters. The frontal sinuses exercise a definite influence on the resonance of the upper notes, particularly those of the soprano and tenor voices. The maxillary sinuses (Fig. 3) are formed by the convex outward sweep of the cheek bones. They are large spherical cavities from which a great deal of the vocal resonance is obtained. It is towards their vicinity and to the bridge of the nose that all placing of lower and some upper middle register notes should be directed (see chapter on Tone Placing). The resonance obtained from the other sinuses acts in an auxiliary and contributory capacity to that obtained from the maxillary sinuses.

Anterior and Posterior Ethmoid Cells.

Following the downward sweep of the under surface of the skull, and formed by thin bony projections from it, are found the anterior and posterior ethmoid cells or sinuses (Fig. 3). They are made up of a number of small cavities. They exercise an influence of a minor nature over the vocal resonance of the lower notes of the upper register, the middle register's notes, and the upper notes of the lower register. They are in communication with and lie lower than the frontal sinuses. They connect with the cavities of the nose by the continuance upwards of a narrow canal known as the infundibulum, which also supplies them with inter-communication. The posterior ethmoid cells are somewhat larger than the anterior ones and are in direct communication with the cavities of the nose.

Sphenoidal Sinuses.

Still lower in the under surface of the skull are situated the two sphenoidal sinuses (Figs. 3 and 6). They are large oval-shaped cavities also in direct communication with the nasal cavities.

Their situation is almost immediately above the opening of the pharynx into the nose cavities (Fig. 6). The resonance they supply to the voice greatly influences the notes of the middle and lower registers, adding a depth of tone and a maturity of timbre derived from none of the other resonance cavities.

Formation of Sphenoidal Sinuses during Puberty.

The sphenoidal sinuses are not present in childhood, although the bones which eventually form them are, as separate projections. During puberty these bones fuse together, forming two large sinuses found in the adult. It is not until these cavities are formed that the voice deepens in quality and becomes mature in sound. The practised ear will never mistake a boy soprano for an adult. The former produces an obviously immature quality of tone in comparison, for it lacks the resonance derived by the adult from the sphenoidal sinuses. When the voice "breaks" during puberty, many other physical changes contribute to the alteration of its timbre and pitch, but one of the influences of importance is the formation of the sphenoidal sinuses.

Varieties of Shapes of Vocal Resonance Cavities.

Seldom have any two singers resonance cavities of exactly the same shape and formation. Consequently voices are as seldom of exactly the same quality and character of tone. At the same time there are as many varieties of beautiful tone as there are differently shaped resonance cavities. The ability to obtain a beautiful tone is thus placed within the reach of anyone who acquires the control of breath and gains the ability fully to utilise the vocal resonance cavities.

The Sound-box of the Voice.

The one remaining part of the vocal apparatus which contributes to the vocal resonance, is that part of the chest situ-

ated within the framework formed by the upper ribs. The first three ribs terminate so close to the main bones of the thoracic framework and the supply of elastic cartilage for their attachment is so small (Fig. 7) that they are capable of but little expansion. They exercise little influence over the actual supply of breath. Those upper parts of the lungs situated within them exercise considerable influence, however, over the tone of the voice. When they are inflated, they act to the voice in a similar manner to that of the sound-box of the violin. In the instrument fitted with a sound-box, the quality of the resonance obtained depends largely upon the relative position to it of the vibrating strings or reeds. If they lie too far from or too near the sound-box, the resulting resonance is imperfect. The maximum use of any sound-box as a resonance cavity cannot be developed until the vibrating strings are at the correct distance from and in the correct position to it.

Importance of Position of Larynx during Voice Production.

The position of the larynx, in which the vocal cords are situated, becomes of obvious importance. The larynx should maintain a fairly steady, low position. The moving larynx, advocated by a certain number of writers, is neither the one advised by the most successful teachers, nor is it the one adopted by the leading singers. From practical experience, quite apart from acoustical considerations, the low position of the larynx has been found to obtain the best tone quality results. Students should accustom their larynx to fall slightly as the scale ascends. If there is any forcing of it either way the tone quality will suffer. The voice will become both throaty and strained. The correct low position of the larynx, by which a maximum of resonance is obtained from the upper part of the chest, is secured by the maintenance of those sensations associ-

ated with correct breathing. The expanded-chest, open-throated feeling will immediately draw the larynx into its proper position. It should be drawn down from underneath by the sterno-thyroid muscle (see chapter on Breathing and Breath-Control). No attempt must be made to push it down from above. In so doing, the base of the tongue is tightened and folded over the throat, which becomes constricted and strained. Just as the correct local sensations assist in placing the larynx in its proper low position, so do they encourage the correct action of the other resonance cavities of the voice. The vocal resonance cavities all depend upon freedom of voice production and the natural functioning of the vocal apparatus for the success and worth of their own contribution to the vocal tone. Nothing insures this freedom of action more than correct breath control. The resonance chambers of the voice depend much more upon the natural functioning of the parts with which they are associated, in conjunction with proper breathing, than upon any specially directed mental or muscular effort. The throat is merely the conductor of the vibrating column of breath, and should remain in an inactive state during voice production. If it is constricted in any way, it will interfere with the flow of the voice-laden breath to the resonance cavities.

Importance of Humming.

No vocal exercise is more conducive to the attainment of a properly directed breath, correctly placed voice, and fully utilised vocal resonators, than that of humming. The student is advised to practise humming as frequently as possible (see chapter on Voice Placing). As long as the feeling of an expanded chest, open throat, and general freedom of vocal apparatus is maintained, little difficulty should be experienced in obtaining good vocal resonance.

Chapter II.

BREATHING AND BREATH CONTROL.

Character and Quality of Musical Sounds.

THE character of a musical sound depends upon the shape and the nature of the musical instrument by which such sound is produced, while the quality of its tone depends upon the manner in which the instrument is played by the performer. It does not require the practised ear of the artist to distinguish between the playing of the novice and the expert. The player's control of tone quality is applicable to all instruments (except those which are sounded mechanically) and the voice is not an exception.

The Quality of Vocal Sound.

The quality of the vocal tone depends upon the manner in which the organs of voice are played upon by the singer. Just as the tone of the piano is created and controlled by the fingers, so is the sound of the voice created and controlled by the breath, the tone quality of the former depending upon the manner in which the manual action is controlled, and the tone quality of the latter depending upon the manner in which the breathing apparatus is manipulated. In each case, the control is acquired by the application of certain scientific principles to the training of the individual.

Correct Breathing the Foundation of Correct Singing.

Adequate breath control, developed along scientifically correct lines, is the foundation of all correct singing. It influences more than any other factor the possibilities of success in voice training. Breath is the creating force of all vocal tone, and its correct control and management is a problem which must be successfully solved before progress in the other branches of voice training can reasonably be expected. The acquisition of a proper control of the breath should be the student's first consideration. It is inadvisable for him to attempt anything in voice training until he has a firm grasp of the principles of correct breathing.

Breathing in Relation to the other Branches of Voice Training.

But the danger of over-concentration on breathing must be stressed. The functioning of the breathing apparatus should be considered in conjunction with the training of the other parts of the singer's equipment. Although many voices have had their progress retarded through lack of correct instruction in breathing, many others have been spoiled by breath faddists. To concentrate upon breathing, to the detriment of the other branches of the art, invariably results in an overbalanced vocal development, the singer's mental outlook becoming one of breathing and breath control instead of one of singing and song interpretation.

Voice Created by Breath.

The sounding of the voice depends upon the breath and the quality of that sound upon the manner in which the breath is controlled and directed. The correct utilisation of the breath depends upon the efficiency of both the action and the control of the respiratory muscles.

Frequently students are advised not to bother about any particular method of breathing, but to breathe naturally. The suggestion is about as scientific and correct as to instruct the pianist to use the fingers without compliance with the laws of technique.

The Mental Control of Voluntary Movements.

All voluntary movements of the body are the results of muscular action controlled and directed by the will. As these movements are accurately repeated, they become increasingly easy. The action of the breathing apparatus during singing is similar. The muscular movements involved at first require the continual maintenance of a conscious mental control, which, after sufficient practice, passes to the sub-conscious mind, the breathing apparatus functioning automatically.

Transfer of the Breath Control from the Conscious to the Sub-conscious Mind.

The transfer of this mental control of breathing from the conscious to the sub-conscious mind proceeds at a pace according to the amount of breathing practice done. The more frequent the repetition, the quicker is this transfer accomplished. The perfection of response by the breathing muscles to the direction of the sub-conscious mind, depends upon the accuracy and speed at which they are made to respond during the control transfer-process. Consequently it is imperative that their activities be directed with absolute accuracy during practice.

A knowledge of the construction and of that which is considered the correct action of the breathing apparatus is necessary to enable the student to detect and to correct faults in his respiratory movements. Confidence in breathing is soon established when the student knows that his respiration is correct scientifically.

Deep Breathing not necessarily Correct Breathing.

It is not sufficient to breathe deeply and naturally, for it is possible to do so and still breathe incorrectly and inadequately. The feeling of the chest tightening and the resistance offered by the ribs increasing is not sufficient to indicate that the breath is either adequate or correct. The correct method has been determined by what is known concerning the structure and natural functions of the body.

The average person considers that the manner in which he breathes for ordinary everyday purposes is natural. This natural method of breathing is seldom the one by which nature intended man to breathe. It is rather a method which owes its existence to nothing more scientific than its apparent adequacy for his immediate needs and which has been made habitual by constant use. If the individual does not lead an active life and if his attention has not been specially directed to the development of the respiratory organs, he will probably use a very limited system of breathing. The action of his lungs will be sub-consciously restricted to that very small movement which, apparently, adequately meets all demands. Such breathing, although continuing to feel quite natural, becomes more shallow and more restricted as the years advance, reducing both the vitality and the disease-resisting ability of the body.

Breathing consists of two movements, inhalation and exhalation, and the singer depends upon the latter activity for the creation, production and maintenance of vocal tone. The air inhaled is considerably altered in its composition by the action of the lungs, before it is applied under pressure to the vocal apparatus. Its contact with the vocal cords transforms it from a stream of waste gases, expelled in the ordinary process of waste elimination, into an active sound-creating force. The composition of the breath produces a greater brilliance of vocal tone than could the air in its atmospheric composition.

ANATOMY OF BREATHING APPARATUS.

The breathing apparatus is composed of the mouth cavity, nasal cavity, air sinuses, pharynx (or throat), larynx (in which the vocal cords are situated), trachea (or wind pipe), lungs,

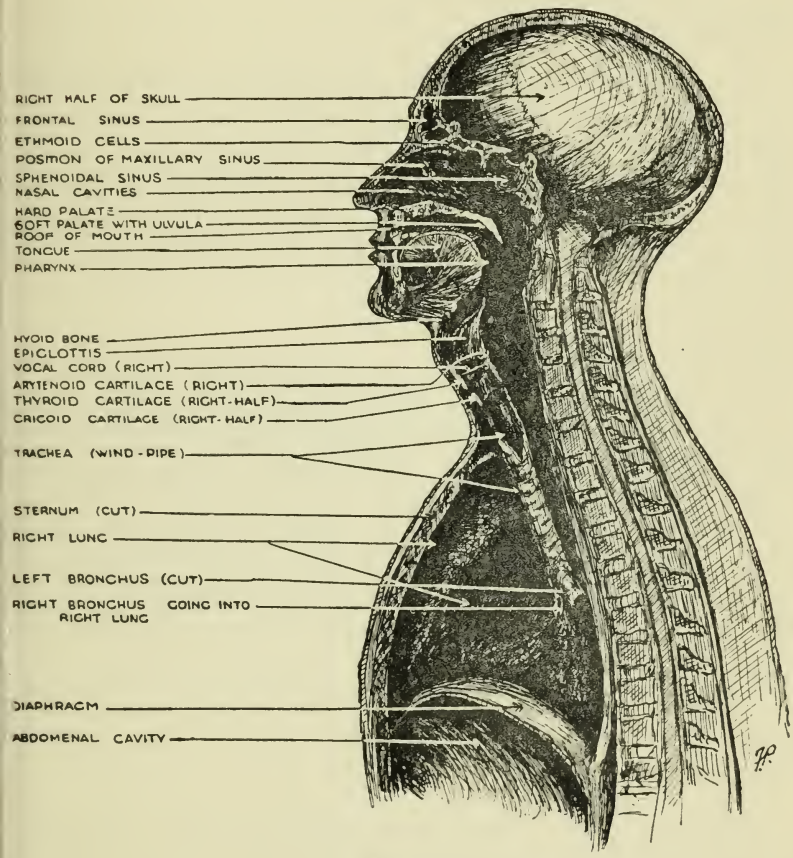


FIG. 6.

chest, and all the nervous, muscular, osseous and cartilaginous constructions which, combined, form the vocal apparatus (Fig. 6).

As the mouth, nose and larynx are of special interest to the singer, their action and influence will be dealt with later. The point for present consideration is their respective positions (Fig. 6). The location of the mouth and nose is obvious.

The Larynx.

The larynx, which is attached by a membrane (hyo-thyroid) to the bone of the tongue (hyoid bone) is situated at the top of the windpipe and the firm knob-like protuberance in the front of the neck is the frontal (thyroid) cartilage of that organ. It is to the inner frontal surface of this cartilage that the vocal ligaments are attached at their anterior terminations (Fig. 1).

The Trachea.

The windpipe (trachea) extends downwards from the larynx for about four inches where it divides into two branches forming the bronchi. It is composed of fibro-muscular tissue reinforced by a series of horseshoe shaped cartilaginous rings (Figs. 2 and 6). Each branch of the windpipe (bronchus) is subdivided into numerous branches called the bronchial tubes. These tubes connecting with the lungs and spreading all over them not unlike to the roots of a tree spreading over the ground, terminate in minute compartments—the air cells of the lungs.

The Chest.

The location of the chest is commonly known. It is composed of a framework of bones, cartilages and muscles. It possesses highly elastic properties and is capable of considerable expansion and contraction. The two main bones in its framework (Fig. 7) are the breastbone (sternum) in front and that part of the backbone behind composed of the twelve

thoracic vertebrae. Extending from the backbone forward and downward are the ribs, twelve on each side, which with the exception of two on each side (the floating ribs), all extend semicircularly round the body downwards, terminating in cartilage which connects them to the breastbone. The distance between the termination of the ribs and the breastbone occupied by the connecting cartilage, increases in extent towards the lower termination of the latter. As this cartilage is highly elastic, the lower ribs are rendered more capable of movement than the upper ones. The cage-like formation of the chest, on account of its elastic cartilage, is possessed of movable and extendable walls.

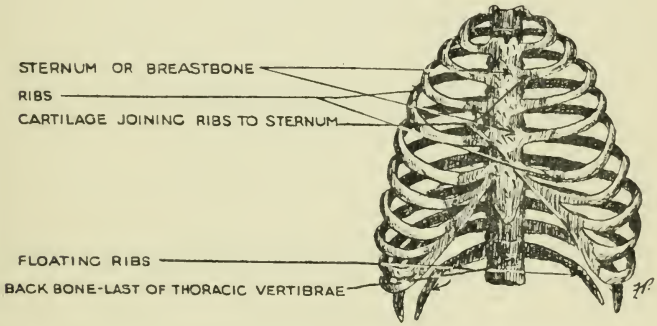


Fig. 7.

The Intercostal Muscles.

The ribs, which form the lateral framework of the chest (Fig. 7), have their main two sets of muscles, the internal and the external intercostal muscles, situated between them, and attached to their inner and outer edges respectively. The action of these intercostal muscles, in co-operation with several other muscular arrangements which act in a contributory capacity

more than in a direct one, cause the ribs to travel upwards and outwards, expanding the chest and increasing its internal diameter, and inwards and downwards with the opposite effect.

The chest is cone shaped, being much narrower at the shoulders than at the waist line. The lungs, conforming to the inner shape of the chest are similarly shaped. The floor of the chest is formed by the muscular partition—the diaphragm—which separates the thoracic and the abdominal cavities (Fig. 6). Above the diaphragm and within the chest walls are situated the lungs, one more or less filling the left half and the other the right half of the thoracic cavity. They are sponge-like compositions, each contained in a sac (pleural sac) to which they fit closely. The inside walls of the chest and the outside coverings of the lungs are always in the closest contact, the latter conforming to the internal shape of the former continuously. The lungs in their sacs rest, at their base, upon the upper surface of the diaphragm, their lower surface corresponding in shape and position to its upper surface.

The Diaphragm.

The diaphragm is a dome shaped muscle in its relaxed position, being convex upwards to the chest. In the act of inspiration it contracts and flattens downwards, increasing the volume of the thoracic cavity in proportion to the extent of its downward movement. The upper contents of the abdominal cavity are always in contact with the under surface of the diaphragm. The volume of the abdominal cavity is reduced by its contraction to the same extent as the volume of the thoracic cavity is increased.

Lungs and their Action.

The lungs are of special interest to the student. Being incapable of movement themselves their activities are controlled

by the action of the chest and diaphragm. They may be compared to an air bag composed of a spongy, absorbent substance, in which are innumerable air storage compartments or cells. The bronchial tubes supply these air cells with an entrance from and an exit to the atmosphere, and through them the breath passes. Air enters the breathing apparatus by the nose (or mouth or both) and, travelling down the windpipe and bronchial tubes, enters the air cells of the lungs. These cells are thin walled structures. Between adjacent cells there is a network of very delicate blood vessels of minute calibre. Over the surface of these cells swarm millions of blood corpuscles, which have been conducted there by these minute blood vessels in the process of circulation. These blood corpuscles, which have been found to number some twenty-five billion during ordinary breathing and six to eight times that number during physical strain, extract oxygen from the air inhaled. In return they discharge carbon-dioxide and moisture for exhalation.

The larger the lungs the more readily do the blood corpuscles take up oxygen. Of all the energy-creating substances required by the body for the continuance of its life, the oxygen of the air is the most vital. Death quickly supervenes if the body be deprived of it for only a few minutes.

Vital Capacity of the Individual.

The vital capacity of the individual depends largely upon lung efficiency. Other things being equal, the person with the most efficient respiratory apparatus enjoys the best health.

General Development of Chest.

The development of the chest and lungs should be attended to, whether for vocal purposes or not. Deep breathing, when practised correctly, is one of the most health-giving and vigour-creating exercises. When an exercise which so stimulates

health of body can be combined with such an art as singing great benefit will be derived by the individual, both mentally and physically.

The thoracic space allotted to the lungs is much smaller than is generally imagined, only a little more than one half of the cavity of the chest being occupied by them. The remaining space is taken up by the heart in the pericardial sac and the main blood vessels leading from and to it.

Breathing for Ordinary Purposes.

Ordinary breathing is an involuntary movement which continues without conscious mental direction. It is not, however, an ordinary reflex action as its functioning can be temporarily suspended for a limited period at will.

Respiration continues as the result of the action of certain waste matter contained in the blood, upon certain parts of the motor nervous system. In the ordinary process of living the body continually uses up energy. This use of energy creates a deposit of waste matter which is extracted from the tissues, and more energy is supplied to them by the blood stream during the course of its continual circulation. It is in this process of circulation that the impurities in the blood react upon the motor nerves, stimulating the discharge of impulses from the lower nerve centres to the muscles concerned, causing the individual to breathe.

The major part of the complete act of inhalation is accomplished by the downward movement of the diaphragm, creating a negative pressure in the thoracic cavity.

Breathing for Singing.

Breathing for singing is controlled by the same muscles which control the action of the lungs during ordinary respiration. The actions differ, however, both in the origin of the

impulse which stimulates the breathing muscles into action, and in the extent and control of the movements which they perform.

Breathing for Singing and Breathing for Ordinary Purposes.

In ordinary breathing the stimulus is supplied reflexly while the extent of the movement depends upon the lung efficiency of the individual. In breathing for singing the stimulus is supplied consciously or sub-consciously, depending upon the singer's stage of advancement in his training. The frequency and extent of the movements depend upon the amount of breath required to meet the demands of the words and music. In normal breathing the act of respiration is completed about fifteen times per minute. In singing, however, exhalation requires to be so controlled that the singer is enabled to complete any long phrase or sustain any long note.

In ordinary breathing inhalation is active and exhalation passive. The breath is inhaled as the result of the expansion of those parts of the body involved. This expansion itself creates the counter pressure which, on the relaxation of the inhalation muscles, causes exhalation. Generally speaking, the action of the diaphragm is sufficient to complete ordinary respiration. As it contracts it presses the contents of the abdominal cavity downwards, forcing them out of their normal position. Taking the line of least resistance, they protrude forward, stretching the frontal wall of the abdomen to an extent in relation to the amount of diaphragmatic depression. Upon contraction the muscles situated in the frontal abdominal wall exercise a counter pressure inwards and upwards upon the viscera. Immediately the muscles of inhalation relax, this counter pressure becomes the greater and is transmitted through the abdominal contents to the diaphragm, causing it to relax upwards. The

volume of the thoracic cavity is thus reduced and breath is exhaled. Many influences may accelerate or retard this action, according to the effect they have upon the individual. Anger, sorrow, fright, excitement, excessive use of energy, etc., all have their different effects upon the speed of respiration.

In singing, respiration is brought directly under the control of the will. Instead of using the breathing apparatus for the discharge of waste matter and the re-oxygenation of the blood only, the singer uses it to satisfy the demands of the music as regards pitch, volume, intensity, quality, phrasing and interpretation. He depends for everything connected with the production of his voice upon his control of exhalation.

In breathing for singing, exhalation, which in the ordinary way is passive, becomes the more active part of the complete act. The singer has to depend for his breath supply upon muscles, the special training of which has been afforded little or no attention prior to the study of singing. In athletic practices almost all the attention devoted to the development of the chest is concentrated upon inhalation and chest expansion. It is possible, and not unusual, to find students who can breathe deeply and expand the chest well, possessed, at the same time, of a breath supply quite inadequate for singing purposes. Athletes, although possessing large chest expansion, frequently experience a painfully apparent inability to sustain a note for any length of time without breath discomfort.

It is not the amount and volume of the breath that matters, but the manner in which it is controlled and economised during exhalation. It is not necessary to be big chested to acquire good breath control, although the larger the chest the greater the possibilities.

A much greater breath supply is required for singing than either for speaking or ordinary breathing. The carrying and controlling of this greatly increased breath supply is an act

which requires considerable muscular development and which calls for effort usually unassociated with the act of normal breathing. The increased muscular development required is purely a physical question and its acquisition does not require always to be associated with actual singing. The student of singing should practise correct breathing at every opportunity and these opportunities will probably occur more frequently when he may not sing than when he may. Correct breathing should be practised anywhere and always, but, naturally, greater health benefit is derived when it is done in the open air.

Muscular Training for Breathing.

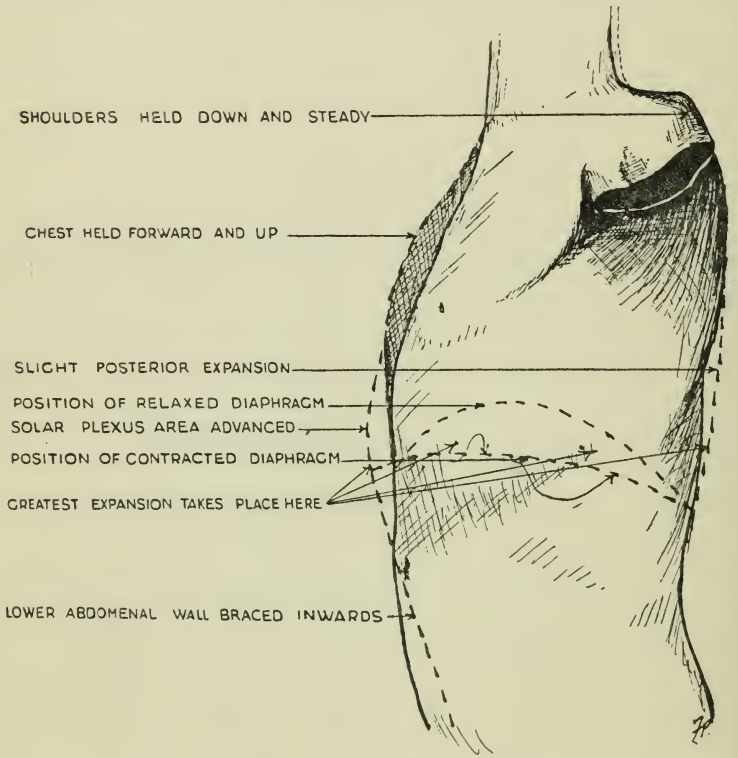
The act of breathing is performed by the co-operation of many muscles. The training of the main muscles concerned—the diaphragm, the intercostal muscles, and those situated in the upper and lower frontal abdominal wall—will simultaneously have a corresponding strengthening effect upon all those which co-operate in the complete act, including those which support the trunk and hold up the chest generally.

Movements of the Body in Breathing for Singing.

The action of the diaphragm in inhalation for singing is similar to that of inhalation for ordinary purposes, except that its contraction downwards is more marked in the former. This increased downward movement causes an increased advancing of that part of the body lying between the lower termination of the breastbone and the umbilicus, i.e., the solar plexus area, where the expansion is greatest (see Fig. 8). Immediately the inhalation movement is completed the lower frontal wall of the abdomen should be contracted inwards. This movement must not be forced in any way but should be merely a bracing in of the lower abdominal wall immediately the diaphragm has completed its downward contraction. It increases the

pressure exercised upon the viscera which, in turn, transmit that pressure to the lower surface of the contracted diaphragm, creating in that muscle a more pronounced tendency to relax upwards and thus securing a more instantaneous and accurate response by the breath.

DIAGRAM OF CHEST BEFORE AND AFTER INSPIRATION.



Continuous line shows normal chest and trunk position. Dotted line shows chest position after inspiration. Shaded part shows chest position to be kept during singing, even after expiration.

FIG. 8.

The intercostal muscles have the major responsibility in the movement of the chest walls. The contraction of the external

intercostal muscles causes the chest walls to move upward, forward, outward and slightly backward, increasing the internal volume of the chest in these directions. On their relaxation, the internal intercostal muscles, assisted by the natural elastic recoil of the chest, help the ribs to regain their original position, decreasing the internal chest volume to normal.

Although the joint activities of the diaphragm and the frontal abdominal wall muscles are usually sufficient to supply the breath needs for ordinary singing, the intercostal muscles must be developed and practised in action, for they may be called upon at any time to assist in the supplying of breath. Breath inhalation, in preparation for voice production, involves, therefore, the action of those muscles which increase the internal volume of the chest and expand the lungs to the same extent. Thus the breath is inhaled in the greatest volume of which the lungs are capable.

The greatest increase in thoracic diameter takes place in the vicinity of the lower ribs just above the waist line and at the solar plexus area just below the termination of the breastbone, the diaphragmatic contraction downwards being responsible for the latter movement (Fig. 8). The proper development and strengthening of the muscles responsible for inhalation is brought about by accurate and adequate repetition. The more inhalation is practised the more efficient and responsive does it become.

Breathing through Nose.

Inhalation should be done through the nose always in breathing practice and whenever possible in singing. The nose, on account of its particular construction, is admirably equipped by nature for the passage of air into the lungs. It is composed of two narrow, tortuous channels separated by the septum—a thin, osseous partition. Immediately inside the nostrils these

two channels are covered by a layer of hairs which brushes from the ingoing air most of the larger impurities. Just beyond this first filter the straight surface of the channels is disturbed by many bony projections and indentations—the turbinated bones—which are covered by a vascular membrane. This membrane warms the air to about blood heat before it passes over the second and much finer filter situated further back in the nasal cavity. The air is thus purified and warmed before it enters the lungs.

If breathing is done through the nose many of the throat discomforts with which singers are commonly afflicted may be avoided. Unless the individual is suffering from cold, the dry throated feeling can usually be traced to mouth breathing. Catarrhal affections so common in singers, especially in a changeable climate, may be greatly reduced by paying sufficient attention to nose breathing and general nasal hygiene. Nasal breathing should always be insisted upon, and it is only when such breathing interferes with the vocal tone or with the music that mouth breathing may be resorted to. Unless the nasal passages are free from obstruction, the voice will never attain its fullest development and beauty of tone. Vocal resonance, if not completely absent, will always be inferior. Habitual mouth breathing is dangerous to the singer, causing chronic throat dryness and harshness of tone.

During the performance of songs in which breath has to be obtained at great speed, it is necessary to breathe through the mouth if the *tempo* is to be maintained and the breath obtained silently. Every opportunity should be taken to return to nasal breathing, between phrases and at rests in the music.

Breath Retention.

We have already seen that the outflowing breath creates the vocal tone and that the quality of that tone depends upon the manner in which the exhalation is controlled. The develop-

ment of the muscles responsible for exhalation—they also govern breath retention—requires special consideration. In the developing of the muscular control of the exhalation movement the ability to retain the breath supply is also increased.

Control of Breath Pressure.

The speed at which the inhalation muscles are allowed to relax governs the pressure to which the breath is submitted, and the pace at which it is exhaled. It should be noted that the exhalation muscles have little to do with the actual control of breath exhalation for singing, their natural tendency being to complete the respiratory act at the normal pace.

The muscles which control inhalation also control the exhalation during singing.

In exhalation for singing the upward movement of the diaphragm proceeds at a pace according to the will of the singer, who regulates the amount of pressure transmitted to it from the muscles situated in the frontal abdominal wall. Thus the requisite pressure is maintained upon the under surface of the diaphragm, ensuring an immediate response to any demand for breath. No amount of concentration should be spared in the acquisition of proper control over these activities.

Complete breath control is not possible, of course, until all the neuro-muscular arrangements which co-operate in and contribute to the complete act of respiration have been correctly and adequately developed and the control of each sufficiently practised to have become second nature to the vocalist.

The diaphragmatic action already described usually provides a breath control sufficient to satisfy the ordinary breath needs of the vocalist. Infrequently, after the diaphragm has been relaxed to its fullest extent upwards, more breath is required. When this stage in exhalation is reached the ribs, which should have maintained up to this point their outward

and upward expanded position, are drawn back to their normal position by the relaxation of the external intercostal muscles, the weight of the chest and the elastic recoil of its contents. This movement reduces still further the internal volume of the chest and more breath is expelled from the lungs. The pace and amount of breath expulsion depends again upon the speed at which the external intercostal muscles give way to the opposing pressures.

When the ribs have been returned to their normal position the breath which still remains in the lungs is made up of so much supplementary air and so much residual air. The residual air cannot be expelled by muscular pressure but the supplementary air can. Such exhalation, however, requires abnormal and somewhat ungainly physical movements. It involves a forward and downward pressing of the points of the shoulders, a flattening inwards of the wall of the chest and a bending forward of the body. These actions are not only detrimental to the production of a reasonably good vocal tone, but also are antagonistic to the feeling of confidence in the breathing ability so important to the singer. The squeezing out of the last ounce of breath should never be indulged in as it is injurious to both voice and lungs. The experienced vocalist who is alive to all possibilities will not allow such circumstances to arise which might tempt him to endeavour to maintain his vocal tone in this contortionist-like manner.

Body Movements in Breathing Considered.

The body movements involved in the supplying of breath for singing may be divided into two distinct stages. One stage consists of the action of the diaphragm, and is completed when that muscle has completed its upward relaxation. The other stage consists of the action of the external intercostal muscles, and is completed when these muscles have been re-

laxed inwards and downwards to their fullest extent, expelling from the lungs that amount of breath left after the diaphragm has completed its work. Other muscular arrangements co-operate with the action of the diaphragm and the intercostal muscles, but as the training and developing of these two main breathing muscles also strengthen any others which contribute to the complete act of respiration, the isolated consideration of the training of these contributory muscles would serve no useful purpose.

Success in breathing and breath control for singing depends largely upon the co-ordinate action and balance of the muscles which inhale and retain the breath with those which in ordinary circumstances exhale it. All the physical activities involved are controlled by the brain, which sways the balance of muscular pressure the one way or the other, according to the demands of the music. A proper balance of action is impossible before the muscles involved have been adequately trained and strengthened. When this stage of physical and mental development has been completed, a steady even breath flow can be acquired, and a reliable control over it maintained with a minimum expense of mental and physical effort.

Sensations Stimulated by Correct Breathing.

When the breath control has been mastered, the sensations stimulated in the vocal apparatus by the outgoing breath are not those of a blowing or a rushing-out of air, but more of a spinning and swirling forward of currents of tone-laden air into the vocal resonance cavities, filling the mouth and sinuses full of tone.

Physical Effort in Breathing.

Controlled exhalation for singing is, then, the co-operation of muscles, the ordinary activities of which are apparently in opposition. The student will experience the need for a cer-

tain amount of physical effort until his muscular control of breath exhalation becomes more developed. The larger the breath supply inhaled, the greater is the physical effort required for its retention and correspondingly greater is the muscular development required for the control of its emission. Occasions arise but seldom in singing when the thoracic capacity is stretched to its utmost, and, in any case, not until the general study of singing has advanced considerably. If breath control has been studied, and the breathing apparatus developed along with the other branches of the subject, the muscles responsible for the breath supply should have become strong enough by that time to meet such emergency.

Amount of Breath Inhaled.

It is inadvisable to inhale more breath than is reasonably required for the work to be done. In limiting the breath to that supply, a much greater and a much finer control can be exercised over its exhalation. Too large an inhalation of breath creates too great a tension upon the respiratory muscles, cramping their action and diminishing the individual's control over them. The muscular control of the breath during singing causes a certain amount of unusual physical exertion, which, although expended for the most part by the respiratory apparatus, is not entirely confined to that part, but is distributed over the complete physical construction. The expenditure of energy becomes less apparent as vocal development progresses, but it is always present.

Breathing Stance.

In anticipation of any abnormal physical effort, for whatever purpose it is intended, the individual places his body, usually subconsciously, into the position considered at the moment most suitable for the most efficient utilisation of the energy to be expended. In golf we take up a certain stance to obtain

he greatest efficiency from a minimum of effort. In any ac-ivities where physical effort is required, the position of the body is always that which is considered at the time the most advantageous to the particular effort.

The control of breath exhalation for singing involves a cer-ain physical effort. In anticipation of that effort and to ensure hat it will be put to the best possible use in the production and maintenance of vocal sound, the body requires to adopt a certain stance. This stance has been determined after much ex-perience and research, together with the knowledge of the con-truction and relation of the various parts of the body. The position is as follows:

1. The feet are placed firmly on the floor with both heels lown, the heel of the left foot being a little in advance of the ollow of the right.
2. The knees and legs are braced back.
3. The body is bent slightly backwards so that the hollow of he back becomes more pronounced.
4. The shoulders are placed backwards and downwards.
5. The upper framework of the chest is held forward and p without straining.
6. The head is held at its normal height and position.
7. The neck is held erect and free.
8. The throat is open and inactive.
9. The hands are held together in front and above the waist ne, the thumb and first finger of the left hand holding the umb of the right. The first finger of the left hand held etween the thumb and first finger of the right, with the re-aining fingers bent and held close together. They must not est on the body.
10. The elbows should not be pushed out, but just kept off e sides, so as not to interfere with the free action of the ribs.

Upon the inhalation of breath, the head, neck and shoulders

remain absolutely steady. There must be no upward movement of the shoulders. The ribs, acted upon by the external intercostal muscles, execute a very considerable movement laterally—i.e., towards the elbows—and slightly backwards just above the small of the back. The breastbone advances slightly. The upper abdominal wall protrudes, as already described, as the result of the downward contraction of the diaphragm.

The lower frontal abdominal wall is braced in immediately the diaphragm has completed its downwards contraction (Fig. 8).

Mental Attitude to Breathing.

The mental attitude of a singer towards breathing is most important. It must become one of confidence, purpose and readiness, which is possible only when the singer knows that his method of breathing is the correct one and that his respiratory apparatus has been correctly trained and adequately developed. The more frequently this mental attitude is used, the sooner will it become established and habitual.

Advantages of Stance.

The stance already described should be practised before a mirror until it can be taken up by the student at the expense of no more effort than that of standing upright. It has many advantages distinct from mere breath control. (1) It gives the singer a good presence, (2) It inspires confidence in himself, (3) It makes his hearers feel that he knows his business, (4) It helps to establish that invisible something which stimulates a sympathy of thought between his hearers and himself, and (5) It reinforces his personality.

When the correct manner in which to stand has been mastered, the singer will experience certain internal sensations, the maintenance of which is of advantage to his vocal tone

olour. The planting of the feet firmly on the ground and ıe bracing back of the knees and legs create a feeling of lertness and readiness. The bracing in of the lower abdomıal wall, immediately the contraction downward of the diahragm has been completed, stimulates the sensation of the reath being ready instantaneously to supply his requirements. 'he protruding of the upper frontal abdominal wall assists in ıinimising any tendency to retain the breath by the action of ıe intrinsic laryngeal muscles instead of by those of the thorax, nd stimulates the sensation of keeping the breath low in the hest and away from the voice. The antero-lateral expansion f the chest at the waist line produces the feeling of the possesion of an adequate second supply of breath, and of an almost mitless supply of voice-creating energy. The holding up and orward of the framework of the chest gives freedom of lung ction. It stimulates the sensation of an expanded chest and n open throat, so essential to correct voice production and reath control. It encourages the contraction of the sternoıyroid muscle (which terminates in the thyroid cartilage of ıe larynx above and in the breastbone below), causing the ırynx to be steadied and held down from underneath. As the ıtter is attached, through the hyoid bone, to the tongue, its ;pression has a relative lowering effect upon the posterior ırts of that member. The feeling of openness and freedom ıtends from the throat to the cavities of the mouth and nose. 'hen the larynx is held down from underneath the vocal tone erives an additional resonance from the upper thorax which ıdows it with a deeper and more sonorous quality.

)IFFICULTIES OF STANCE.

Difficulty may be experienced at first in adopting the proper ;ance for singing. The usual problems are the correct position f the chest framework and experiencing the sensations stimu-

lated by that position—the expanded chest and the open throat.

If difficulty is experienced in the stance the following exercises will be of assistance:

(1). Pass a walking stick through the elbows across the small of the back, bending the trunk backwards until the desired position of the chest is obtained. Repeat the exercise until the correct position can be taken up without the aid of the stick.

(2). Take in a large enough breath to almost completely expand the upper part of the chest. Keep the arms straight and raise the hands sideways, palms downwards, until they are level with the shoulders. Place the hands on top of the head keeping the elbows back and level with the shoulders. Without exhaling bring the hands down to the position they should occupy when singing. Slowly exhale the breath without allowing the chest to alter its position.

Frequently women experience more difficulty than men in maintaining the correct chest position, but as it is absolutely essential to correct breath control neither trouble nor practice should be spared to acquire it.

Difficulties in Stimulating the Open Throat Sensation.

The open throat is seldom used in ordinary conversation and the degrees of throat closure vary according to the many influences of climate, geographical position and social status of the individual.

Certain exercises should be practised, the details of two of which are given below, if difficulty be experienced in obtaining the open throat in singing. The term throat is commonly applied to that part of the pharynx situated at the back of the mouth cavity behind the pillars of the fauces (Fig. 5).

(1). Take in breath through the nose but with the mouth open, and observe the action of the throat. The curtain-like

posterior termination of the roof of the mouth—the soft palate with the uvula suspended from it—will be seen to move downward and slightly forward to meet the tongue. The passages from the throat into the mouth are then closed. Whispering "*ah*," exhale the breath through the mouth. The tongue will depress itself, the soft palate will rise and the throat will be opened.

(2). Keeping the tongue flat, slowly inhale breath through the mouth already shaped as if to produce a broad "*aw*" sound. Have the feeling of expanding the chest, raising the soft palate, and lowering the back of the tongue. The open-throated sensation will follow.

The position of the head and neck should not be altered in any of these exercises. Do not open the mouth by elevating the head, but by allowing the jaw to drop. The throat exercises should be practised until the student can open or close the throat at will. The correct stance should be maintained throughout.

Respiratory Gymnastics and Breathing Exercises.

As singing in itself is insufficient to develop a correct and adequate breath control, special respiratory gymnastics are recommended. The training of the respiratory muscles is achieved in much the same manner as that of any other muscular system of the body. Certain exercises are specially devised to encourage the breathing muscles to act in a manner most advantageous both to correct breath control and to correct voice production. Before these exercises are attempted it must be ascertained that the correct system of breathing is being used, and that it is only its ideal state of development at which the student aims. Learn first to stand properly and breathe properly. During the practice of breathing exercises no records should be made of chest measurements and expansions, for

this only confuses the issue. The amount of breath is not the factor of importance, but the manner in which it is utilised in the formation of voice and the control of its tone colour. Enormous chests with abnormal expansions do not in themselves indicate any ability specially to control breathing.

Any average, healthy individual can acquire, in quite a short time, a very useful and adequate breath control. By the use of breathing exercises, a few of which are detailed below, any shortcomings which may be present can soon be remedied. These exercises help to develop muscles which are weaker than they should be and will call into action others which have been allowed to remain in a state of comparative inactivity. If the chest development and breath capacity are below normal it is advisable to take medical advice before undertaking this training.

Breathing is the natural functioning of certain organs and muscles of the body and should be the same in women as in men. In these days of outdoor sports men and women have equal opportunity for physical development and the difficulties of acquiring breath management have been considerably reduced from what they were a generation ago. Women seldom suffer now from the ill effects of harmful dressing. But generations of foolish dressing have left their mark upon the breathing capacity of the women of to-day, difficulties and bad habits being found more frequently in women than in men. At the same time it is not suggested that a woman cannot be trained to breathe quite as well as a man.

At first all breathing exercises should be done without the use of vocal sound, thus minimising any tendency to which the individual may be predisposed, to practise breath retention by the muscles of the throat and larynx, instead of by those of the chest. In silent breathing the muscles of the throat remain undisturbed, those of the chest executing all the movements. The

exercises should be practised in the open air or at the open window. The clothing, which should hang from the shoulders, should be as scanty as possible.

Exercise No. 1. Lie flat on the back. Relax all the trunk muscles. Place one hand flat on the front of the chest and the other on the soft part of the body lying between the lower termination of the breastbone and the umbilicus. Take in a long steady breath through the nose. The lower abdominal wall should move first by protruding considerably as the diaphragm contracts downwards. When the forward bulging of the abdominal wall ceases brace inwards its lower area—i.e., below the umbilicus—without exhaling breath. The solar plexus area should then advance and the chest expand upward, outward and forward (Fig. 8). Repeat the exercise as required, slowly inhaling and slowly exhaling. This exercise will indicate to the student the body movements which should be executed when standing upright. These movements are more easily accomplished for the first time when lying flat on the back and care should be taken to see that they take place in the same sequence and to the same extent in the following exercises which are carried out in the standing position.

Exercise No. 2. Take up the correct stance. Inhale a steady slow breath through the nose, taking four seconds to do so. The course of the ingoing breath should be so directed that it stimulates the sensation of expanding and filling the lungs at their base. There should be no feeling of packing the breath into the upper parts of the lungs. Make sure that the thorax performs the same movements, in the same sequence, as in Exercise No. 1. Retain the breath for six seconds without moving the chest in any way. Exhale gently, slowly and silently through the mouth. Repeat six times and rest. If the number of seconds recommended for the different sections of

the exercise causes undue fatigue, the timing should be reduced until the muscles become stronger.

Exercise No. 3. Take up correct stance. Inhale a slow steady breath through the nose—directed as in Exercise No. 2, i.e., to the base of the lungs—until the lungs are fully expanded. Retain for two seconds. Exhale rapidly and noiselessly. Repeat six times resting between each repetition until the six can be done continuously.

Exercise No. 4. Take up correct stance. Inhale a comfortably large breath, filling the base of the lungs first. Exhale the breath in six breaths with two seconds between each and without any intermediate inhalation. Repeat exercise six times with rests between each repetition. Eventually this exercise should be done continuously for several minutes.

Exercise No. 5. Take up correct stance. Inhale breath as in Exercise No. 3. Retain it for two seconds. Let it flow out through the open mouth gradually and gently, taking six seconds to do so. The breath must not be forced out but caused to flow forward as for the dimming of a glass. Repeat twelve times without rests between.

Exercise No. 6. Take up correct stance. Inhale a long slow steady breath through the nose, filling the base of the lungs first. Retain it for eight seconds. Exhale as slowly and evenly as possible but without causing undue exertion. Repeat as required. This exercise can be made more beneficial if the arms are raised upwards laterally, palms of the hands downwards, until they reach the level of the shoulders when the palms should be turned upwards and the movement of the arms continued until the fingers of the left hand meet those of the right at the central point and at arm's length above the head. This upward movement of the arms should proceed at a pace which enables it and the act of inhalation to be completed simultaneously. Keep the hands above the head as long

as the breath is retained. Upon exhalation return the arms to their normal positions slowly and at a pace enabling them to reach those positions when the act of exhalation is being completed. This is a particularly beneficial exercise.

. . . . . .

The following exercises are executed with the assistance of the articulation of the syllable "*no*."

Exercise No. 7. Take up correct stance. Take in a small supply of breath through the nose, directing it to the base of the lungs as before. Hold for three seconds. Then exhale through the mouth *all* the breath already inhaled. Without allowing the chest to alter its forward and high position sustain the syllable "*no*" for two seconds. Repeat ten times. As development progresses sustain "*no*" for a gradually increasing number of seconds. It is imperative that the chest should be kept in its high expanded position.

Exercise No. 8. Take up correct stance. Before inhaling breath sustain "*no*" for three seconds. Inhale, through the nose, completely filling the base lungs first. Hold for three seconds. Sustain "*no*" for three seconds. Retain remaining breath for four seconds and then exhale slowly. Repeat ten times.

Exercise No. 9. Take up correct stance. Before inhaling, sustain "*no*" for three seconds. Take in a small, sharp breath through the nose, directing it to the base of the lungs. The short breath should be more than is required for the single articulation of "*no*." Sustain "*no*" for three seconds. Take in another breath supply as before. Again sustain "*no*." Continue the process until the lungs are fully expanded. Retain the breath for four seconds and then exhale slowly. Repeat exercise as required.

Exercise No. 10. Take up correct stance. Inhale through the nose, filling the base of the lungs first. Retain for two seconds. Sustain "*no*" for three seconds. Retain remaining breath for three seconds. Sustain "*no*" for four seconds. Retain breath for two seconds. Sustain "*no*" for three seconds. Retain breath for three seconds. Sustain "*no*" for four seconds, and so on until the supply of breath has been exhausted. In this exercise "*no*" should be sustained at least six times before the breath is expended. Repeat this exercise as required. No breath is to be inhaled after sustaining "*no.*" The high chested position must be maintained throughout.

More exercises may be required to meet individual cases, but the above form a basis upon which others can be constructed. When these exercises are used as a means by which a weak chest is developed they will require to be applied in some modified form, and in any case, under expert supervision.

Absorption of Correct Breathing Method.

By systematic practice, breathing becomes absorbed into the act of singing and gradually its control becomes transferred from the conscious to the sub-conscious mind. Eventually no more physical effort need be expended upon breath control in singing than merely that required for the balancing of the muscles involved. The proper stance becomes habitual and not so much associated with the act of breathing as with that of just singing.

Correct Breathing Essential.

Correct breathing is the foundation of correct singing and musical ability is of no avail in the absence of a proper breath control. A good breath control should be acquired before vocalisation is attempted, although the usual procedure in voice training is to study those two branches of the subject simultaneously.

SPEED.

To satisfy the modern student, progress must be made at top speed. As this speed must be combined with accuracy, great care must be exercised to ensure that each step in vocal progress is accurate and complete before the next is taken. After a reasonable control has been acquired over the action of the breathing apparatus, the problem of breath directing has next to be faced (see chapter on Voice Placing).

EFFECT OF BREATHING ON VOICE PLACING.

The placing of the voice is governed in no small measure by the manner in which the out-flowing breath is directed after it leaves the larynx. Breath directing can be accomplished by sensation only. An analysis of the sensations which a properly placed tone stimulates will be found in the chapter on Voice Placing.

BREATH DIRECTION AND SENSATIONS STIMULATED.

The breath should be so directed that it creates sensations as if it were swirling and spinning forward into, and completely filling, all the cavities of the mouth, head and nose. When thus directed the voice feels as if it were being formed and created in these breath-filled cavities, and there is no feeling of either larynx or throat influence in its formation. The vocal sound appears to originate in the resonance cavities and at the lips.

It must be noted that sensations are being considered here and not scientific facts. According to the leading scientific authorities, the actual sound of the voice is produced by the action of the breath upon the vocal cords, and of course no attempt is being made here to dispute that fact. What is commonly called voice is that sound considerably modified by the influence of the resonance cavities.

The singer, however, is guided in his voice creation by sensation, and it is only by sensation that a correct forward direction of the breath can be accomplished. Although it is possible for one to describe one's own sensations with a certain degree of accuracy, it does not follow that similar sensations in others will produce the same results. Sensations created in one person by the forward directing the breath will not always answer to the description of those created in another by similar activities. It is, therefore, highly desirable that this particular part of voice training be done under the supervision of some qualified guidance. Just as the necessity to retain the breath may lead one student to misdirect his breath stream and cause his voice to fall back into his throat, tightening up all his vocal apparatus, so may an attempt to make the breath flow forward cause another singer to force the breath and overblow his voice, wasting energy and sacrificing tone and pitch.

The breath stream should flow forward, carrying with it and supporting the tone. The production of the voice in singing should feel similar to the production of voice in speaking, the difference being one of breath supply and control.

Inartistic Breathing.

The inartistic use of the breath—breathing in the wrong place or not breathing in the right one—is an error seldom found in the physical control of the breath, but usually in the mental direction of that control. The want of an intelligent analysis of the music and text frequently results in breath being taken at obviously wrong points, disturbing the natural flow of the melody, upsetting the rhythm, breaking phrases needlessly, spoiling the grammatical construction, and obscuring the meaning of the song.

It should be almost superfluous to warn singers against taking breath in the middle of a word, or group of closely

connected words, or in the middle of musical phrases. Breath should be taken when necessary after punctuation marks, before unimportant words such as prepositions, conjunctions and articles. A preposition and its noun should never be separated, nor should an article and its noun. Conjunctions must never be divided from their succeeding sentence.

The student who uses his intelligence experiences little difficulty in determining where his breath supply may be replenished, except perhaps in florid singing of the Bach and Handel type, etc. In some instances it is impossible to sustain the long vocalisations of such compositions in one breath. Consequently the word to which they are sung has either to be broken, or completed and re-articulated when breath is taken. Sometimes the breaking of the words or phrases in such music can be overcome by practice, and the artistic value of the vocal performance of the florid passages enhanced. Florid singing is a matter of technique and physical endurance. Any signs of strain or exhaustion in the singing of those long passages ruins their effect. When breath must be taken, it should be done at a point most convenient to the singer and most easily concealed.

In ordinary ballad singing breath should be taken frequently, for there is no point in sustaining long phrases for long phrasing's sake.

Adequacy and Practicability of Method Recommended.

Any system or method of breathing, to be of practical use to the vocalist, must be one which gives him an adequate breath supply and an easily managed control over it, with a minimum expenditure of mental and physical energy. The stance required for its operation should inspire the singer with confidence. The method recommended is one which fulfils all these requirements. As it is founded upon the natural func-

tioning of those parts of the body involved in the act of respiration, it can have none other than a beneficial effect upon the voice. Breathing to live is an involuntary action, and it may follow that in the development of its conscious control for singing, it may seem, at first, to be anything but natural. Through practice, however, it becomes eventually a perfectly natural and easy process.

Intelligent Practice Necessary.

All the practice in the world is not sufficient if the student does not fully understand the method of breathing to be adopted. When all the details have been grasped, breath management will present no greater difficulties in its attainment than would the development of any other set of muscles.

Chapter III.

THE VOCAL REGISTERS.

Register Blending and Voice Equalisation.

THE process of blending the registers of the voice and equalising the vocal tone involves the elimination of all the obvious changes of timbre, placing, resonance and general voice production, thus establishing one equal and level vocal quality throughout the whole compass of the voice.

The blending of the vocal registers is a department of voice training which requires to be conducted with the greatest care. The correct recognition of the limits of the compasses of the vocal registers is essential to the success of their treatment, but the process of importance is the blending of the tones and characteristic qualities of all the registers. And yet there is no branch of voice training about which there exists so much difference of opinion.

The most common result of wrong vocal training is that of having the compasses of the vocal registers forced upwards beyond their natural limits, a treatment fraught with great danger, and which may eventually ruin the voice.

Definition of Vocal Register.

A vocal register may be defined as a series of notes in the voice which, when sung consecutively, create sensations in the singer of being produced by the same physical activities and

muscular movements. They appear to the ear to be of a similar quality of tone, of identical location of placing, and to derive their resonance from the same areas.

Number of Vocal Registers.

Opinions vary as to the number of registers possessed by each voice, and some writers on voice training go so far as to deny the existence of any. That the vocal registers do exist can be proved by experiment. If the student sings each consecutive semitone from his lowest note upwards, he will soon be made aware that at certain points in his vocal compass the voice breaks from the tone in which it has been singing into another of a somewhat different quality. A few fortunate people exist whose voices do not display any obvious breaking points, but they are the exceptions. The great majority of vocal students find that on singing upwards from the lowest note of the voice, a particular pitch is reached in the ascending scale from which it is impossible to progress and at the same time to maintain the same means of production. They become conscious of certain alterations in the muscular movements involved in the production of the voice, accompanied by certain modifications of its tone quality. The exact degree and pitch of these alterations varies according to the particular individual and voice.

Finding the Natural Pitch Limits of the Registers.

The first note on which the voice changes its quality and production in the upward singing of the scale marks the pitch at which the lower (or chest) register naturally changes—i.e., in the untrained voice—into the lower-middle register. As the voice ascends from that point, another is reached at which a similar change is experienced, marking the pitch at which the voice changes from the lower-middle to the upper-middle re-

gister. The next point of alteration marks the changing of the voice from the upper-middle register to the upper register. The next point of change marks the passing of the voice from the upper register to the head voice.

The Head Voice in Women.

All female voices possess what is called a head voice in varying degrees, but the tenor singer is the only male classification with a usable head voice. In his case it is a mixed production of upper register quality with that of an extensive falsetto, and is more acquired than natural. When this mixed head voice is properly developed and controlled, however, notes can be produced of an exceptionally high pitch combined with great warmth of tone and fineness of quality. The other male classifications have no head voice in the true sense of the term. They are able generally to produce notes in the "falsetto" of a flute-like quality, the high baritone being able exceptionally to produce a tone quality on his highest notes somewhat similar to that of the tenor. This ability in the high baritone, which, by correct training, becomes of considerable artistic value, sometimes cheats the student into believing that he is a tenor.

Although the male classifications are divided into the chest, lower-middle, upper-middle and upper registers, they retain a varying degree of chest register quality and influence throughout their whole compass. In the bass voice the chest register quality influences all the notes of the voice, even those of the upper register, in a very marked degree.

A diagram illustrating the points at which the voice in its various classifications is divided into the vocal registers will be found in Fig. 9. The actual pitch at which any voice changes from one register to another, however, depends upon the individual, and varies a semitone or two either way.

Differences in Vocal Quality between Registers: Their Causes.

The equalisation of the voice will always be one of the student's most pressing problems, and the most speedy and sure way of selecting a suitable means of acquiring equality of tone is to consider, in the first place, a few of the results of the scientific investigations into the causes of those changes.

By the aid of the laryngoscope—an instrument somewhat like a dentist's mirror—the internal activities of the larynx have been observed during the production of the voice. Many theories have been advanced as to the allocation of responsibility for the alterations in the vocal tone when a voice changes from one register to another. From this visual inspection of the larynx during the formation of vocal sound, many vocal scientists have concluded that the alterations in the positions and approximation of the vocal cords, plus the action upon them of the intrinsic muscles of the larynx, are together responsible for the differences of tone between any two registers, and for the changes in vocal quality as the voice leaves one register and enters another.

By these investigations the vocal cords have been observed in the chest register to have been set into activity over their whole area and along their complete length by the action of the outgoing breath. The space between their free edges—the glottis (Fig. 1)—has been observed to be broader in this register than in the others. In the lower and upper middle registers the cords have been seen to continue to vibrate along their complete length, but with the area of vibration considerably reduced laterally. In the formation of the upper register notes the vibrating area is observed to be still further reduced. In addition, the length of the cords is considerably shortened, accompanied by a narrowing of the glottic slit.

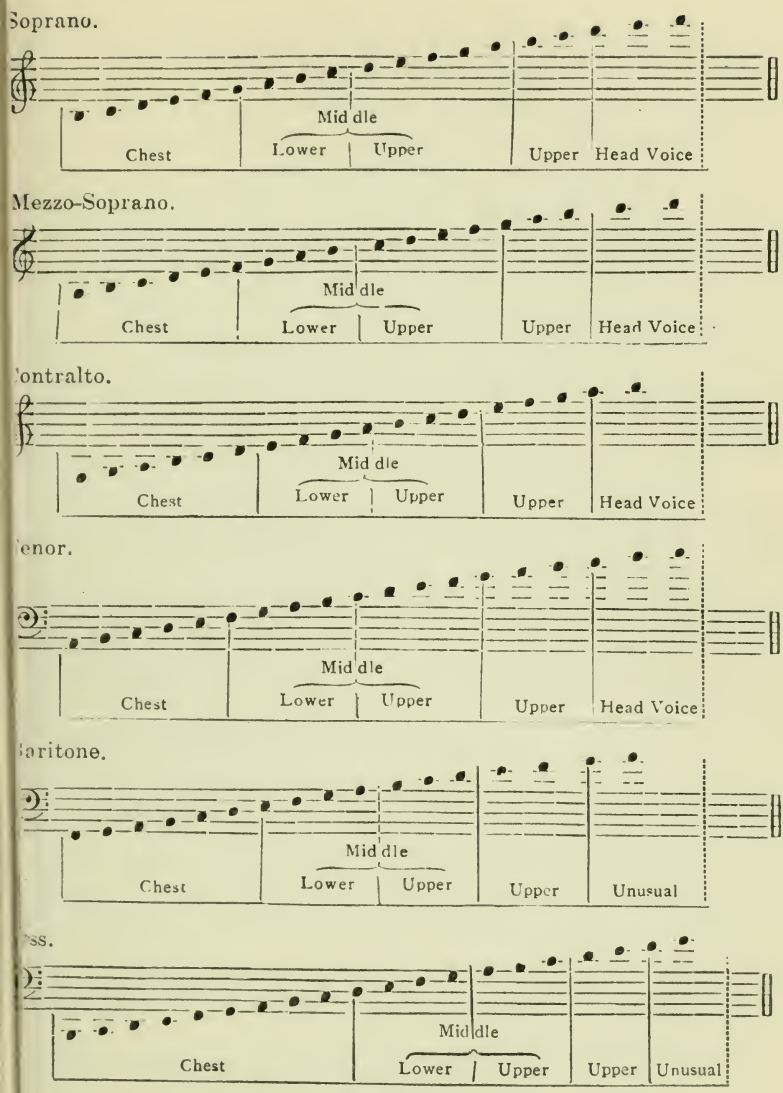


FIG. 9.

It is maintained by some scientists that the falsetto voice not produced by the action of the breath upon the vocal

cords, but by its action upon the ventrical bands, which form sharp edge-like projections in the larynx immediately above the vocal cords. They are sometimes referred to as the false vocal cords (Fig. 1). Others assert that in the upper register the vocal cords do not vibrate lengthwise, but divide into seeral vibrating segments. It has also been asserted that the intrinsic activities of the larynx have little or nothing to do with the functioning of the registers, and that the vocal cords do not exercise much influence over the formation of vocal sound, but that each set of air sinuses (Figs. 3, 4, 6) is itself responsible for the formation and tone of the voice in one register.

Although all these facts and theories are of considerable interest, they are of little practical assistance to the vocal student in his striving after tone equality and register blending.

The results of all laryngeal activities can only be judged by the ear. The intrinsic muscular action of the larynx functions semi-reflexly, and does not come under the direct control of the will. A knowledge of how the larynx works, applied to the analysis of the tone results of its internal action, determines the classification of the voice, and indicates to the vocal scientist and to the teacher the limits to which any one register may be trained with safety. But such knowledge does not provide the student with any greater control over his voice than does the knowledge of the construction of the ear provide over the hearing.

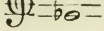
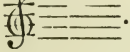
The Need for Vocal Exercises.

The muscular development of the vocal apparatus can only be accomplished by the adequate and intelligent practice of certain vocal exercises which must be of progressive difficulty, so as to ensure the greatest possible benefit accruing to the voice by their use. As the exercises advance and the muscles

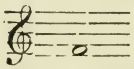
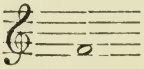
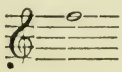
become stronger, the complete vocal apparatus becomes more responsive to the directions of the brain.

The blending of the registers and the equalisation of the vocal tone constitutes a problem which requires more than muscular development for its solution. It requires, in addition, the application of the student's intelligence. The process is a practical one, and no amount of theories as to how the vocal registers function will facilitate its accomplishment. Voice equalisation and register blending are possible only through sufficient voice use under the direction of a suitably educated ear.

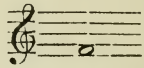
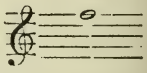
Blending of Vocal Registers in Women's Voices.

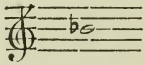
In women's voices the lower-middle register should not be trained lower than  or the upper-middle register higher than  .

The Mezzo-Soprano Voice Considered.

In the mezzo-soprano voice, which is the most common of the female classifications, and which will be taken as an example in the explanation of the register-blending process, the middle registers usually extend from  to varying a semitone or so lower or higher according to the individual. The middle registers are subdivided into the lower-middle register, which extends from about  to , and the upper-middle register, extending from to about  .

In the blending process the lower-middle register should be blended first of all with the chest register, and the blending of the lower-middle with the upper-middle register should be accomplished next.

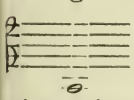
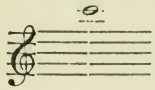
In singing over the middle registers from  upwards the mezzo-soprano will usually find that the voice is of a thin quality to begin with, but as it ascends it improves in both quality and resonance until it reaches about , where its quality again thins off. As it continues to ascend, the resonance increases and the quality improves, until the upper limits of the middle registers are reached at about 
Sometimes, however, this improvement in resonance and quality is absent in one of the middle registers, and the thin quality prevails throughout either the lower-middle or upper-middle register.

For purposes of illustration, let it be assumed that the mezzo-soprano voice now under consideration has a fairly good lower-middle register but a poor upper-middle one. The first problem is the blending of the lower-middle register with that of the chest register, creating from  downwards to the lowest notes of the chest register, a succession of vocal tones which change from the quality of the lower-middle register to that of the chest register so gradually that the singer is enabled to produce a level tone of apparently equal quality, resonance and placing throughout the compass of the two registers.

Preparation for Register Blending.

It must be stressed that the blending of the registers and the equalisation of the vocal tone must never be attempted until elementary voice production has been studied with that degree

f success which must necessarily precede any attempts at :gister blending. Also that the student's vocal studies, ıeoretical and practical, have reached that stage from which ıey cannot proceed further without tone equality. The stu- ent should be able to recognise the differences of tone quali- es produced by the different registers, and be able, by listen- ıg to the tone produced, to indicate the register in which any ɔte lies. Provided the student has advanced thus far, the ɔnsideration of the process of blending the registers may be ɔmmenced with reasonable hopes of success.

The good mezzo-soprano voice with a compass of from about  to about  is normally divided by the gisters into five unequal parts (Fig. 9).

ITER-RELATIONS OF VOCAL REGISTERS.

The relations and connections between the registers of the ɔice may be illustrated by the following diagrams. Fig. 10 ustrates the voice before register blending has been attempted, :., when the voice is divided into five sections of different ıalities, and also the same voice after register blending :s been successfully accomplished, i.e., after the voice has en equalised in tone and has become one complete whole.

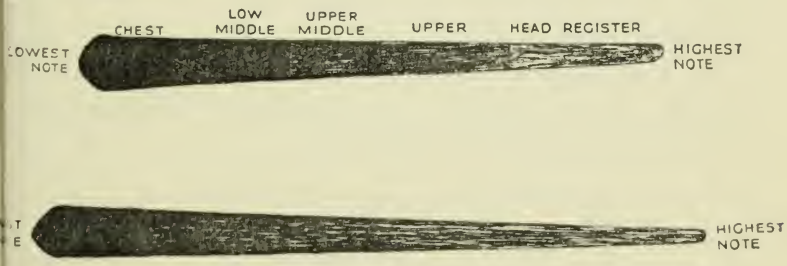


FIG. 10.

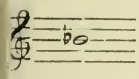
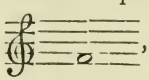
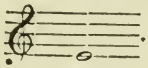
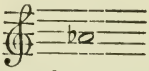
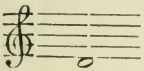
The object of the above diagrams is to emphasise to the student (a) that each of the vocal registers is definitely associated with its immediate neighbour, whether the pitch of the latter be above or below the former, (b) that there is a great similarity of tone quality, placing, resonance, etc., between adjacent registers, (c) that the constituent parts of the chest register are more akin to those of the lower-middle register than to those of the upper-middle register, and in a similar manner those of the upper-middle register are more like those of the upper register than those of the chest register. Each register has tones of a quality more like those of the register immediately next to it than to those of one further removed.

The process of register blending involves the making of this natural similarity of tone between adjacent registers so pronounced that any differences in production, which may still remain between them, manifest themselves so gradually that the actual change from one register quality to the next becomes so obscure that no break in the continuity of the vocal tone can be detected.

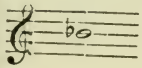
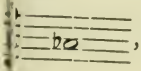
The lower-middle register should be gradually merged into the chest register, and the upper-middle gradually into the lower-middle. The blending of the upper register and the head voice requires a slightly different treatment, and is considered later.

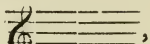
This merging of one register into another means a certain amount of overlapping of the register limits, and must always be done downwards, i.e., from the lower-middle to the chest, from the upper-middle to the lower-middle, etc. The chest register must never be pushed into the lower-middle, nor the lower-middle into the upper-middle register.

BLENDING OF MEZZO-SOPRANO LOWER-MIDDLE WITH CHEST REGISTER.

The process of blending the lower-middle register with that f the chest may now be considered. The lower-middle register otes of the mezzo-soprano voice extend from about  to  , and the chest register commences t about  . Single notes should be hummed first f all, commencing at  . As these tones descend n pitch they should be made gradually to assume an increas- ng amount of the quality of the chest register, until on reach- ng  they are produced with the full chest register uality. Humming on consecutive single notes should be ontinued until the passing from the lower-middle register to e chest can be accomplished without any obvious break or teration in placing of the hum.

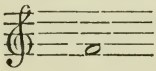
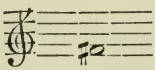
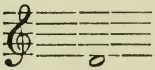
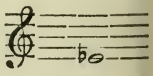
Vowel sounds, preceded by the hum—e.g., *um-ai*, *um-ah*, etc. -should next be employed, but still to consecutive single notes ud not sung loudly. As proficiency is gained in passing from e lower-middle to the chest register on these combined hum d vowel sounds, the strength of the voice should be gradu- y increased to full voice, and the preceding hum dispensed ch.

The lower-middle register of the mezzo-soprano commences  , but the blending process is commenced at  , which is two semitones lower. The chest register mmences at , but the descending voice from the

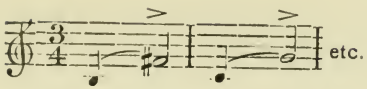
lower middle to the chest register does not assume its full register quality until it reaches  , which is two semitones lower than the highest note of the chest register. This margin should be kept in all registers throughout the whole blending process, as it minimises the temptation to carry any register upwards beyond its natural pitch limits.

When proficiency is gained in the singing of consecutive single notes from the lower-middle to the chest register, exercises of two, three, and four semitones should be added, after which two notes of a scale downwards should be introduced, and then three notes of a scale, then four, then five notes, until the complete scale can be sung downwards with equality of tone to any of the syllables suggested, and to all the vowel sounds.

The blending downwards of the lower-middle with the chest register is a gradual process, taking time and concentration. The speed at which the voice can be equalised over those two registers depends upon the condition of the voice to begin with and the amount of intelligent practice done.

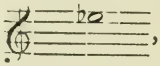
When the blending downwards is completed, each semitone, from the middle of the lower-middle register in succession downwards, should assume a little more of the chest register quality than the semitone immediately above it. In other words,  should have a little more chest register quality than  , and  than 
etc.

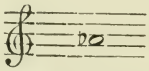
When the downward equalisation process is well advanced, the voice should be practised in passing from the chest to the lower-middle register. Intervals of a fifth can be introduced, employing the same syllables and vowel sounds as before, e.g.,



As proficiency is gained, the intervals used should be reduced gradually, and then sufficiently practised until the voice can pass from the one register to the other in either direction, at any interval and to any syllable, with firmness and fullness of tone, combined with accuracy of resonance and placing.

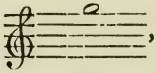
The Blending of the Upper-Middle with the Lower-Middle Register in the Mezzo-Soprano.

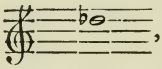
The blending of the upper-middle with the lower-middle register should next be considered. In this process consecutive single notes are sung downwards from  , which is two semitones below the highest note of the upper-middle register. As each semitone brings the voice nearer the upper limits of the lower-middle register, it should be made to assume more of the deeper quality now associated with the notes of the lower-middle register.

When the descending voice reaches  , which is two semitones below the upper limits of the lower-middle register, it should have been made to assume the full quality of that register.

The remainder of the process is similar to that applied to the blending of the lower-middle and chest registers, except, of course, for the difference in pitch. The equalisation of the voice over the upper-middle register can be facilitated if the blending of it with the lower-middle and upper register proceeds simultaneously.

Blending of the Upper with the Upper-Middle Register in the Mezzo-Soprano.

The process of merging the upper register into the upper-middle register commences with the singing of consecutive single notes downwards from  , which is two semi-tones above the lower extremity of the upper register.

In the blending of the other registers the higher register was always made to assume the quality of the lower one. In the case of the upper register blending with the upper-middle register, the former retains its own tone quality until the voice reaches about  , which is the point at which the upper-middle register commences to assume the tone quality of the lower-middle register. The bright quality of the lower notes of the mezzo-soprano's upper register greatly reinforces the tone of the upper-middle register higher notes when thus carried down. As the voice descends further, and assumes more of the tone quality of the lower-middle register, the reinforcement of tone and quality from the upper register is gradually superseded by that from the lower-middle register.

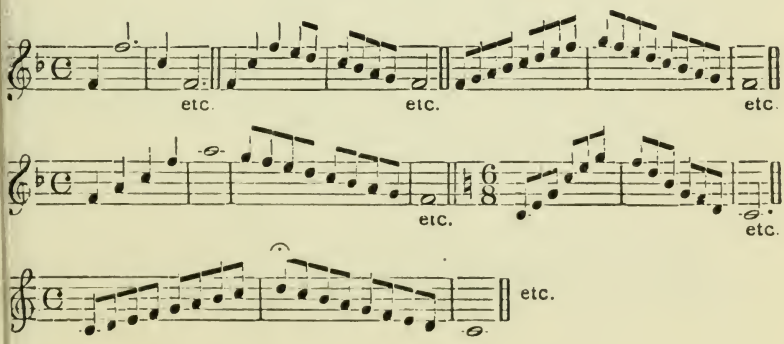
The upper-middle register constitutes the mutual meeting ground of the voice upon which the lower and upper tone qualities join and blend. Were the upper-middle register to be developed without having its tone quality thus influenced by that of the upper register and the lower-middle register notes, its production would very rapidly exhaust the breath supply and create a breathy and characterless tone. On the other hand, as the student acquires more skill in the equalisation of the upper-middle register along the lines recommended above, the breathiness gradually disappears. The upper-middle register becomes as full in tone as the notes of the lower-middle register, and as bright in quality as those of the upper register.

A properly produced and blended upper-middle register endows the mezzo-soprano voice with a continuity and richness of tone, and vocal timbre of a brightness and freshness unequalled by any other classification of voice.

When the chest, lower-middle, upper-middle registers and lower notes of the upper register have been reasonably well blended, and the voice more or less equalised over their compass, practice should be commenced in the singing of vocal exercises such as have been suggested, so that the passing of the voice from one register to any other, without any display of breaks or changes in the quality or placing of the tone, becomes possible, the aim being to maintain one level, equal quality throughout.

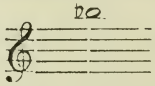
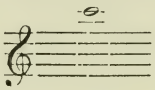
The further development and equalisation of the upper register and its blending with the head voice can be proceeded with.

As the lower limits of the upper register become blended with the upper half of the upper-middle register, the singing of consecutive single notes downwards is discontinued. The exercises utilised for the development of the upper register and its blending with the head voice, are composed of scales and parts of scales which swing the voice from the lower registers into the upper register and head voice, e.g.:

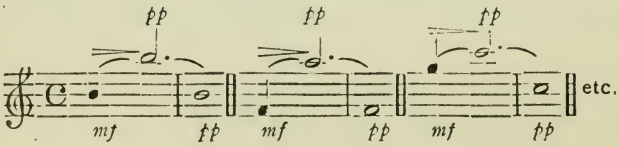


The Mezzo-Soprano Head Voice.

As the upper register develops, so should the blending of it with the head voice be proceeded with. The production of the head voice, which should not be attempted until the other registers have advanced in the process of blending, is commenced by the singing of scales *pianissimo* of seven, eight and nine notes into it from the upper-middle and upper register, to such syllables as "*Noo*," "*No*," "*Nee*." The actual placing of the notes of the head voice should be allowed to look after itself until their formation has been accomplished (see chapter on Voice Placing). When the tones of the head voice can be produced at will, their correct placing should be next considered.

In the process of the development of the head voice, the singer may experience a break in the continuity of its tone as the mezzo-soprano ascends past about  and the soprano past about  . This break, the force of which can be minimised by a reduction in the breath pressure, should be allowed to continue until the head voice has been properly produced. The break is then eliminated as the processes of placing the head tones and that of blending them with those of the upper register advance.

Exercises used for the blending of the head voice with the upper register consist of notes lying at fairly wide intervals from each other which carry the voice from the middle and upper registers into the head voice, e.g.:

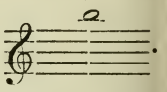


They should be hummed to begin with, and as proficiency is gained the syllables suggested for the blending of the other registers should be utilised. These exercises are sung *mezzo-forte* on the lower notes, and the strength of the voice reduced to *pianissimo* as it is swung upwards to the higher note. The voice should be kept *piano* as it descends from the upper to the lower note. The strength of the voice is then gradually increased until all the intervals can be sung at any strength required. As facility is gained in the singing of these intervals, the distance between them should be reduced so that eventually the voice can pass from the head voice to the upper register in consecutive semitones without any apparent break or alteration in tone quality or placing. As the voice descends in this process, and approaches the upper limits of the upper register, not only should it be caused gradually to assume the tone qualities of the upper notes of the upper register, but also gradually to acquire a placing similar to theirs. The tones of the head voice are much weaker than those of the upper register, and the strength of the latter must be so modified as to make the gliding of the head voice into it absolutely smooth and straight. It should be noted also that the production of the head voice should cause less physical effort than that of the upper register notes. When the production of the head voice is accompanied by a tightening of the throat and a feeling of strain in the vicinity of the larynx, it will be found, probably, that the singer is endeavouring to make the head tones of the same strength as the upper notes of the upper register, instead of reducing the latter to the strength of the former. The only safe method of blending the head voice with the upper register is to utilise soft singing and not to increase it in strength or volume until the head voice can be produced with ease and freedom. But soft singing must also be firm singing, and the singer should never deprive the vocal tone, however soft it may be, of adequate breath support.

Blending of Soprano Registers.

The foregoing suggestions apply to female voices only, and the exercises given, which require to be altered in pitch according to the different lie of the registers of the various voices, are written for the mezzo-soprano voice. Sopranos will find less difficulty in the blending and placing of the head voice, but more difficulty in the treatment of the chest register than will mezzo-sopranos, but the processes are similar.

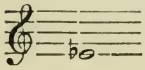
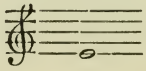
Contralto Head Voice.

In the contralto, however, the head voice is frequently absent, although the author has had experience of heavy contraltos producing good head tones as high as  . But as there are more contraltos who cannot produce such head tones than who can, it is inadvisable for that classification of voice to attempt the development of head tones without skilled supervision.

Blending of Registers in Contralto.

The process applied to the blending of the registers in the contralto voice is very similar to that applied to the other classifications of women's voices, except, of course, that the pitch of register limits is lower. Rather more difficulty is found in the blending of the lower-middle register with its neighbours than in the similar treatment of the upper-middle register, although the actual development of the latter may present considerable difficulty.

Contralto Chest Register.

The upper limits of the contralto chest register extend to  or  , where a decided "break" indicates

he ascent of the voice into the lower-middle register. The vocal quality changes from the fine broad resonant tone usually associated with the contralto chest register, into a thinner quality, which extends from the point of change to about efore it regains any breadth or resonance.

In consequence of the prominence of a "break" at this change, ontraltos are exposed to the temptation—into which they frequently fall—to force the chest register up beyond its natural mits, injuring the voice and greatly retarding the process of oice equalisation. It is not unusual to hear the contralto sing p to about , or even as far as , with road masculine-like tone, and then suddenly "break" into a in tone of immature quality for the production of a note one emitone higher.

The contralto voice reacts as successfully to correct register lending as does any other, and it cannot be considered properly trained and developed until it displays a level equal tone uality throughout its whole compass.

IDDLE REGISTERS OF CONTRALTO.

The contralto, having a thin, impoverished lower-middle gister, should commence the voice equalisation process by lending the upper-middle register with the lower-middle. As uch as possible of the tone and brightness of the upper-iddle register should be retained in the lower-middle register tes, until the descending voice reaches that point at which e lower-middle register assumes the tone quality of the chest gister in an ever-increasing degree. The process of blending e other registers of the contralto voice is similar to that plied to the other classifications of women's voices.

Register Blending in Men's Voices.

The process of register blending and voice equalisation in the case of men's voices is similar to that applied to women's, and the same exercises are used, suitably reduced in pitch. In men's voices the tone quality of all registers—with the exception of the head voice in the tenor and the falsetto voice in all male classifications—is considerably influenced throughout by that of the chest register.

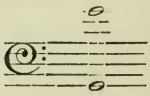
Influence of Chest Register Quality.

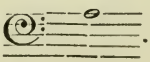
In the bass, baritone, and many tenor voices, the chest register quality is carried from the lowest to the highest note of the voice. It is only in the true tenor voice that the upper register develops into the head voice. Infrequently high baritones possess a head voice of somewhat similar construction but of inferior quality.

Although the chest register quality exercises a very marked influence over the tone of the whole vocal compass in men, the male voice is divided into registers similarly to the female voice.

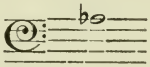
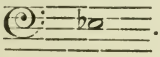
Register Blending in Baritone Considered.

As the baritone voice is the most common of the male classifications, its treatment will now be considered.

A good baritone, with a compass of about  , and normally constructed, is divided into the various registers, as shown in Fig. 9.

The weakest point in the male voice usually lies where the lower-middle and the upper-middle registers meet, which in the baritone is about  .

BLENDING OF LOWER-MIDDLE WITH CHEST REGISTER IN BARITONE.

The blending of the lower-middle register tones with those of the chest register is a process which usually does not cost the baritone much effort. The tones of these two registers are naturally so closely associated and generally so similar in production and placing, that the singing of consecutive semitones downwards from  can be accomplished without revealing much change in the vocal tone. The baritone should experience a deepening of the resonance position at about  .

BLENDING OF UPPER-MIDDLE WITH LOWER-MIDDLE IN BARITONE.

The blending of the upper-middle and lower-middle registers usually presents more difficulty, and the process applied is somewhat different from that for women's voices. Instead of the tone being influenced by the upper register quality, as in the female voice, it is still very definitely influenced by the chest register quality. Exercises for the blending of the upper-middle and the lower-middle registers are the same for the baritone as for the mezzo-soprano, except, of course, that they require to be suitably reduced in pitch. The intervals between the notes in these exercises should be reduced as proficiency and repetition is gained. Practice should continue until the voice can pass from one register to the other at any interval and to any syllable with ease and continuity of tone quality. There is a very marked tendency in baritones to allow the voice to run up in placing as it ascends from the lower-middle to the upper-middle register. The higher the note and the

greater the interval from which it is produced, the correspondingly stronger is the tendency.

The voice placing and resonance areas for the notes of the upper-middle register should be kept down, and should vary as little as possible from those positions required for the production of the notes of the lower-middle or chest register. As much of the chest quality as possible should be retained in these upper-middle register notes, but there must be no forcing to attain this. When the voice can be passed from the one register to the other satisfactorily, scales and parts of scales similar to those recommended for the mezzo-soprano, but one octave and a third lower in pitch, should be practised.

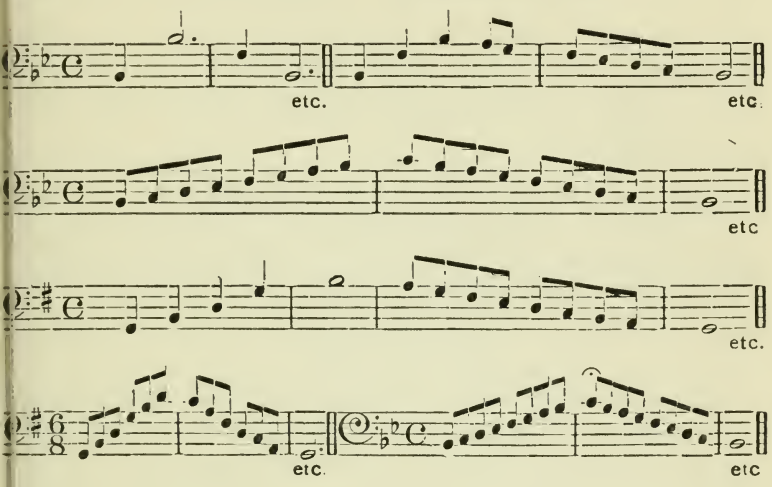
Blending of Baritone Upper Register with Upper-Middle.

After the chest, lower-middle and upper-middle registers have been sufficiently well blended to enable the baritone to sing from either register into the other without appreciable loss of tone, the blending of the upper and upper-middle registers should be commenced. The notes of the upper registers of all male voices are considerably more difficult to develop than those of the corresponding registers of the female voice. Exercises which carry the voice from the lower registers to the upper should be employed until the actual formation of the notes of the upper register becomes comparatively effortless. The vocal placing of these upper register notes should not be attempted until they can be produced easily.

During the development of the male upper register notes the placing is usually incorrect and the tone deficient in resonance. As their development advances, however, and as the effort required for their production becomes reduced, their placing should be rectified (see chapter on Voice Placing). The equalisation of the upper register tones in the bass and baritone involves fairly strenuous practice.

A good upper register is an essential in the equipment of ıe male singer, for, with the exception, perhaps, of the true bass, lmost all dramatic effect is confined to the upper register notes.

Suitable exercises for the blending of the male upper register ith the lower ones are composed of parts of scales of seven, ght or nine notes in different arrangements, e.g.:



HE TENOR REGISTER BLENDING.

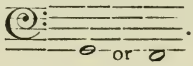
The remarks which apply to the blending of the chest, lower-ddle, upper-middle, and upper registers of the baritone, ply equally to the same process in the tenor voice. In the tor the blending of the upper register with the upper-middle esents little or no difficulty, while the blending and develop-ent of the chest register is comparatively difficult. But in th cases the same process as that applied to the baritone voice used. The remarks which apply to the treatment of the head ice of the mezzo-soprano apply equally to the development d blending of the head voice of the tenor, except for the ference in pitch, the tenor voice lying one octave lower than e mezzo-soprano.

Exercises composed of notes at certain intervals should be sung by the tenor, which swing the voice from the lower registers into the head voice, *pianissimo.* After having been practised to humming, these exercises should be sung to such syllables as *Noo, No, Nee.*

The Tenor Chest Register.

The actual formation of the chest tones should be the first consideration, and their placing should not be considered until they can be produced with ease and certainty (see chapter on Voice Placing).

Subdivision of Chest Register in Baritones and Basses.

Frequently in bass and baritone voices the chest register appears itself to be subdivided into the lower-chest and upper-chest register at about 

. On singing downwards over the chest register the voice is found to thin in quality about two semitones above that point of change, but immediately on passing that pitch it again acquires resonance and a slightly different tone quality. In such cases—and they are very common—the chest register will require to be submitted to a blending process, as if it were composed of two distinct vocal registers, the upper part being blended with the lower. By a reduction of breath pressure, as the voice approaches the point of change, any sudden alteration of vocal tone quality or resonance may be minimised.

Voice Equalisation.

In the lower registers of all voices, men and women alike, the vocal tone is usually of a much heavier quality than that displayed in the other registers. As the voice when properly equalised should be able to produce notes of an equal tone quality and placing throughout its entire compass, the common

endency to make the heavier parts of the voice heavier still reatly retards the progress of the equalisation process. Con-altos and basses are the worst offenders in this respect, but ezzo-sopranos and baritones with heavy chest registers also ll victims of the temptation.

ORCING OF THE REGISTERS.

Many vocal faults can be traced to the forcing of the regis-rs beyond their natural pitch, one of the most common of ese being the singing of the notes situated in these forced-up arts slightly out of tune. Faulty intonation is inexcusable, d is more frequently the result of forcing up of the registers, lack of an efficient breath control, than of ear inefficiency. he tight jaw and the wrinkled forehead are also productions the forcing-up of the registers, and nothing detracts more om the value of the singer's performance than having the at-ntion of his audience, whether in drawing-room or in concert-ll, divided between his singing and his facial contortions.

If the forcing up of the registers is persisted in, it frequently sults in a complete loss of voice. Usually this is preceded nature's warnings in the form of feelings of roughness or tual pain in the vicinity of the larynx, or feelings of tired-ss or swelling in the throat. If these warnings are allowed pass unheeded, loss of voice quickly supervenes.

In the female voice the forcing up of the upper-middle and per registers results in the formation of a strident tone in se parts. If the male voice is subjected to the same treat-nt, the upper notes become shouty and eventually may dis-pear entirely. All the notes of the upper registers must be ng firmly, but the student should learn to discriminate be-een firm singing and shouting. Immediately there is any picion of undue strain, it is a sure sign that the production faulty, and that some part of the process requires attention d rectification.

Strength of Vocal Tone to be Employed for Register Blending.

It is impossible to indicate in words the degree of strength of voice which should be used during the blending of the registers, and which may be most suitable for the acquisition of voice equalisation. The student should neither sing with such force that he cannot sing a good deal louder if necessary, nor so softly—except in the preliminary exercises for the formation of the head voice—that he cannot sing much softer. The *mezzo forte* strength of voice is the safest, and should be continued throughout the whole register blending and voice equalisation processes except where *pianissimo* singing is specially advised. It is always beneficial, however, regularly to exercise the voice at full strength of tone for short periods, so that all the muscles involved may be exercised to their fullest capacity.

Accuracy of Voice Placing.

Accuracy of voice placing and purity of vowel sound formation greatly assist in the register blending process, and the narrower the vowel sound the easier may it be carried over the "break" points, *ee* (as in meet) being much easier to carry over the "breaks" than *aw* (as in bawl).

The blending of the vocal registers and the equalisation of the voice will ever constitute one of the most important departments of voice training. Until vocal tones can be produced of like quality and of identical placing from the lowest to the highest note of the voice, the student cannot consider his vocal technique anything but imperfect and inadequate.

"One may learn to sing songs in a few months with a certain degree of artistry, but the blending of the registers and the equalisation of the voice may take as many years."

Chapter IV.

VOWEL AND CONSONANT SOUNDS.

)rganised Vocal Sounds.

BEFORE vocal sounds can become intelligible, and before they can be utilised in the expression and transmission of ideas, they require to be made uniform in character nd organised in progression. Language is made up of words hich are composed of syllables. Syllables are made up of owel and consonant sounds. They are formed by the voice eing produced through certain conformations of the mouth avity. Clarity of diction, quality of tone, distinctness of tterance, etc., all depend upon the manner in which the tongue, ps, soft palate and jaw adjust the shape of the mouth cavity. very large percentage of vocalists, through the worship of e fetish of big tone, afford little consideration to these adstments, although the great advantages to singing derived om clear diction and distinctness of utterance are so obvious.

larity of Diction.

The first requisite of the vocalist is to be understood. If e words do not "get through," the singer's efforts become untelligible and artistically inferior. The development of a oad, resonant tone usually constitutes a chief consideration the study of singing, and rightly so, but it is entirely wrong

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to allow it to become the dominating idea in vocal training. Adequate attention must be given to clarifying the diction. Many singers imagine that their student days are over when they have acquired a broad resonant tone, and before the words themselves have received proper consideration. Such attitude is short-sighted and wrong. Before the student attempts the interpretation of songs, his words must be perfected even to the sacrifice of other points.

Composition of Words.

Words are made up combinations of vowels and consonants, the vowel representing the actual sustaining sound of the word or syllable, and the consonants interrupting that sound. Take, for example, the word "call." Had it to be sustained, the vowel sound "*aw*" would be sung, the consonants "*c*" and "*ll*" receiving only momentary vocal attention and being merely fringed upon the edges of the vowel sound.

Vowels and Vowel Sounds.

There are five vowels in English, but there are as many vowel sounds—modifications and amplifications of these five—as as there are different conformations to which the lips and tongue can adjust the internal shape of the mouth. The original sound produced by the action of the breath upon the vocal apparatus is moulded into the vowel sounds by the adjustment of the internal shape of the mouth to certain conformations. Great care must be exercised in these adjustments, for inaccuracies, however minute, produce relative alterations in, and deviations from, the correct sound of the vowel.

Although it is almost impossible, and certainly not satisfactory, to describe in print the exact mouth formation for the correct utterance of any vowel or consonant sound, an approximately correct description of the normal position and action of the tongue and lips may be attempted. All vowel sound

formation and placing should be done under skilled supervision, and the student is advised not to rely upon his own impressions of the meaning of book descriptions of mouth positions. On the other hand, such descriptions may bring errors in the forming and placing of the vowel sounds to the notice of the student by providing him with a method of analysis to which he can submit all his mouth conformations.

There are many vowel sounds in English, and to analyse the mouth position for each would add another volume to this work. Consequently, mouth conformations for only the foundation vowel sounds are here analysed.

Consideration of Nine Vowel Sounds.

The vowel sounds for present consideration are of necessity limited to nine in number, and are:

A, as in father; *aw*, as in brawl; *e*, as in bet; *ai*, as in maid; *o*, as in grow; *i*, as in high; *ee*, as in meet; *oo*, as in wooed; *u*, as in feud.

"A," as in Father.

"*A*" is the most open of the vowel sounds, and its correct forming and placing present together more difficulties than any of the other vowel sounds. For that reason, it is inadvisable to commence the study of the vowel sounds with "*a*." "*Ee*" (as in meet), for example, should be dealt with first, as its forming and placing are comparatively easily achieved. But the vowel sound "*a*" (as in father) is first dealt with here because the mouth conformation is acquired by merely opening the mouth naturally, the internal mouth shapes for the other vowel sounds being certain alterations of this natural "*a*" position. The formation of the mouth cavity for the production of "*a*" is as follows: open the mouth by dropping the jaw until the lower teeth are about one inch distant from the upper

—roughly, the breadth of two fingers. The tip of the tongue should lightly touch the back of the lower front teeth. It should be slightly concave from the tip backwards and from side to side, forming a furrow lying antero-posterially with its lowest point towards the central back portion of the tongue (Fig. 7). The lips, which should follow the movements of the jaw, are held slackly and naturally, and by being slightly pouted should form an egg-shaped aperture having its greater diameter perpendicularly. In practising the "*a*" vowel sound care should be taken to ensure its accurate pronunciation. It must not be narrowed, making words like "staff" sound "steff," or broadened, sounding "staff" as "stawef."

"AI," AS IN MAID.

Open the mouth in the same manner as for "*a*," except that the jaw should drop to a slightly lesser extent. The tongue, the tip of which touches the back of the lower front teeth, should be elevated until its central sides find contact with the inner edges of the upper teeth (Fig. 7). The tongue should be held forward and up in this position. There is a great temptation to allow the tip of the tongue to retreat from its contact with the back of the lower front teeth and to allow its elevated part to lie short of its correct height, closing the aperture of the lips more than is necessary in order to assist in the formation of the "*ai*" sound. The space utilised in the formation of the vowel lies between the upper surface of the elevated tongue and the roof of the mouth. The "*ai*" vowel sound should not be broadened, making words like "day" sound "dey," or substituted by another vowel, making words like "fray" sound "fry"; or divided into two, making words like "bray" sound "bra-hee." Frequently the "*ai*" vowel sound is mispronounced "*i*" (as in "bye").

"EE," AS IN MEET.

Open the mouth as for "*ai*," but again the dropping of the jaw is slightly less in extent. The lips are pouted, as in the "*o*" (as in "grow") mouth formation (Fig. 7). The tip of the tongue remains in contact with back of lower front teeth, but at a point slightly higher than for "*a*" or "*ai*." The part of the tongue elevated for the formation of "*ai*" moves still higher towards the hard palate and more forward, and particular care should be exercised in the singing of "*ee*" in this respect. "*Ee*" should not be broadened, making words like "meek" sound like "make," or sounded "*i*," making words like "green" sound "grine."

Almost all the resonance in vowel sound production is obtained from the cavities of the nose and head, but there is no vowel sound with a greater tendency to become nasal in quality than "*ee*." All vowel sounds are formed in the mouth, and must never be sung through the nose.

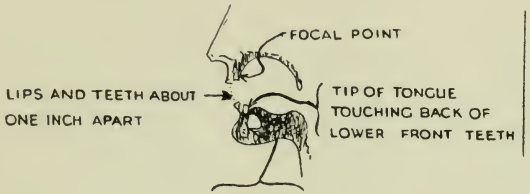
"AW," AS IN BAWL.

The mouth formation for "*aw*" is similar to "*a*" (as in "father") except that the lips are more pouted. The tongue lies slightly lower (Fig. 7).

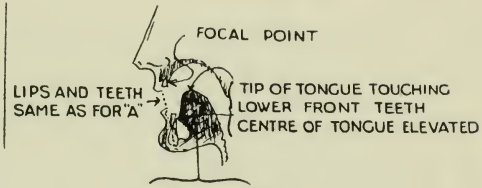
"O," AS IN GROW.

The mouth formation is exactly the same as for "*a*," except that the lips are further pouted. A still more rounded mouth aperture is formed, but with a much narrower diameter than that required for the "*aw*" vowel sound (Fig. 7). The full round tone of the clear "*o*" should be maintained in all practice of this vowel, and any tendency to pronounce "*o*" as "*aw*" should be guarded against. Words like "grow" should not be sounded "graw," nor can words like "going" be considered correctly pronounced as "gowing."

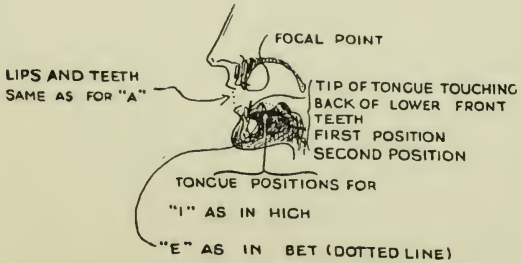
DIAGRAMS OF TONGUE AND LIP POSITIONS FOR VOWEL SOUNDS.

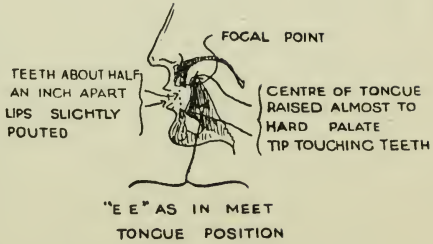


"A" AS IN "FATHER"
TONGUE POSITION

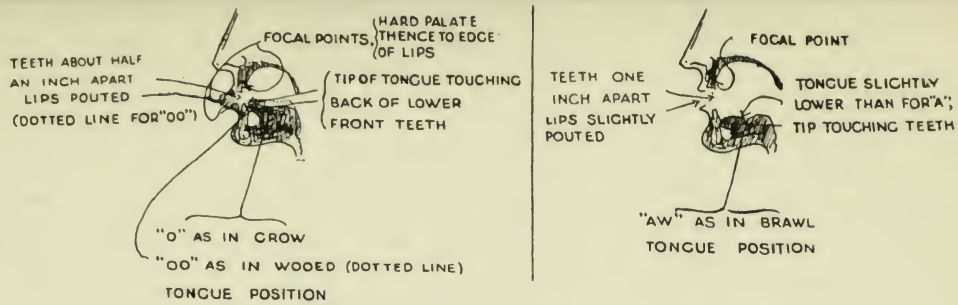


"AI" AS IN MAID
TONGUE POSITION





"E E" AS IN MEET
TONGUE POSITION



THE TIP OF THE TONGUE LIGHTLY TO TOUCH THE BACK OF THE LOWER FRONT TEETH IN ALL VOWEL SOUNDS

Fig. 11.

"OO," AS IN WOOED.

The mouth formation for "*oo*" is similar to that for "*o*," except that the diameter of the aperture formed by the lips is made still narrower. The tip of the tongue ascends from the back of the lower front teeth to their upper edge (Fig. 7). The vowel sound "*oo*" is one which is most commonly mispronounced, probably on account of the difficulty in giving it the true sound value while at the same time producing a good vocal tone—words like "to you" being sung "toe yo." Frequently "*oo*" is mispronounced "*ow*" (as in "brow"), words like "good" being sounded "goud.'

"E," AS IN BED.

The mouth formation for "*e*," as in " bed," is similar to that required for "*ai*," as in "maid," except that the tongue is less elevated posteriorally (Fig. 7). The tip of the tongue remains in its position at the back of the lower front teeth. The mouth aperture is similar in diameter to that required for the "*ai*" of "maid." Frequently "*e*," as in "bed," and "*ai*," as in "maid," are transposed by the singer in striving for tone instead of clarity of diction—words like "get" being sung "gate," and "met" "mate."

"I," AS IN HIGH.

This sound is formed by a combination of the vowel sounds "*a*" (as in "father") and "*e*" (as in "bed"). The accented vowel sound in this combination is the "*a*," the "*e*" being formed by a moving upwards of the central back of the tongue on the termination of the sound (dotted lines, Fig. 7). The mouth formation is the same as for the "*a*" (as in "father") vowel sound, except that the tongue is slightly elevated posteriorally. The mouth should remain open until the sound of the diphthong has ceased, otherwise, when the lips are brought

together in the process of closing the mouth, there will be a strong tendency to pronounce the terminating "*e*" as "*ee*" (as in "meet), such words as "good-bye" sounding "good-byee," and "cry" "cryee." Frequently the accented part of this diphthong suffers also from mispronunciation, words like "kind" being pronounced "koynd," and "grind" "groynd," by mouthing the "*a*" portion of the sound.

"U," AS IN FEUD.

This sound is a combination of "*ee*," as in "meet," and "*oo*," as in "wooed." The mouth formation is a combination of that required for these two vowels. Diphthongs are made up of an accented vowel sound and an auxiliary one. The latter is pronounced lightly, but never omitted from the combined sound. "*U*" is the only diphthong in English where the accent falls upon the second vowel sound. If the auxiliary sound in "*u*," i.e., the "*ee*" part of the sound, is omitted, words like "duke" become "dook," and "duty" "dooty," mistakes not uncommon even amongst the cultured classes in certain parts of the English-speaking world. On the other hand, if the auxiliary part of the sound is over-emphasised, the examples just given would be sounded "dee-ook," "dee-ooty," etc. When "*u*" is preceded by the sound "r," it is pronounced "*oo*," "rule" being sounded "rool." But "suit" is pronounced "seeut" and not "soot" or "shoot." "Dew" is always "deeu," and never "jew."

TONGUE CONTROL.

Before proceeding to consider the most suitable vocal exercises for forming and placing these vowel sounds and the development of the fullest vocal tone in their production, it is well to consider the control of the activities of the tongue. Tongue control is usually one of the greatest difficulties with which the student has to contend.

The tongue is made up of a number of muscles, and its control is a matter of practice. The following exercises, although perhaps not very dignified, will be found most useful in bringing the tongue into submission. During the performance of the tongue exercises, there must be no feeling of throat contraction, and the feeling of an expanded chest and open throat should be maintained throughout.

Tongue Exercise No. 1. Open the mouth as if to sing "*a*," i.e., with the lower teeth about one inch from the upper and with the tongue lying as flat as possible on the floor of the mouth. Put the tongue straight out as far as possible, but without straining. Draw back the tongue slowly and evenly into the mouth, gently brushing the lower lips and the tips of the lower teeth with its under surface. When the tip of the tongue reaches the upper edges of the lower teeth in its journey inwards, the in-drawing action ceases. The tip of the tongue is made to travel down the back of the lower front teeth until it reaches the junction of the latter with the gums. As the tip travels downwards, the body of the tongue should be made to keep level with it and depress itself to the same extent. The mouth remains open and the jaw remains steady but slack, the throat open and inactive. When the tongue has been returned to its normal position, it should lie flat and at rest on the floor of the mouth for five seconds, after which the exercise should be repeated. This exercise, which should always be supervised by the use of a mirror, should be repeated at least twelve times each practice.

Tongue Exercise No. 2. Again supervising the tongue movements by the use of a mirror, place the tip of the tongue at the back of the lower front teeth, after having opened the mouth as for the singing of the "*a*" vowel sound. Press the tongue forward, keeping the tip in its position until the upper surface

of the tongue is folded forward as if to pass between the teeth and lips. Continue to fold it forward until the sides of the tongue find contact with the edges of the lips. The tongue, in this folded position, should protrude a little from the mouth. Hold this position for two seconds. Draw the tongue back slowly to its normal position until it lies flat and relaxed upon the floor of the mouth. The tip remains throughout the exercise touching the back of the lower front teeth. Repeat the exercise at least twelve times each practice, allowing a few seconds' relaxation between each repetition.

Tongue Exercise No. 3. Again using the mirror for supervision, double the tongue forward as in Exercise No. 2. Return it to its normal position as quickly as possible. Repeat at least twelve times as before.

Tongue Exercise No. 4. Again using the mirror, open the mouth, as in Exercise No. 1. Allow the tongue to assume its flat, relaxed position (as the result of the practice of Exercises Nos. 1, 2 and 3). Keeping the tip touching the back of the lower front teeth, cause the tongue to become concave from tip to back, and from side to side, by the contraction of the muscles situated underneath (hyo-glossus), assisted by the articulation of "*aw*" inwards. When the tongue has assumed the correct concave position, allow it to flatten again without any posterior elevating or central arching. Repeat this exercise frequently. The fourth exercise must not be practised until the other tongue positions have been mastered.

Throughout the tongue exercises the body must be held in the proper position for breathing, as described in the chapter on that branch of singing. When the sensation of an expanded chest and open throat is established, the back of the tongue will have been pulled down from underneath, thus minimising any tendency to force it down from above.

Influence of Vowel Sound Quality over Vocal Quality.

When the correct tongue positions have been mastered, the student can commence the formation of the vowel sounds. These vowel sounds are the sound of the language, and the quality of the singing voice depends very largely upon the accuracy of their formation and placing. The individuality of each sound must be preserved. Clearness and purity of diction must always be aimed at during practice.

Vocal Exercises for Practice of Vowel Sound Formation.

The vocal exercises for the practice of vowel sound formation require certain modifications to suit the individual. They are more or less elementary in character, and do not include any for the development of the higher tones of the voice, a process which should not be attempted unless under expert supervision.

Many books of elaborate vocal exercises are published, and can be purchased at moderate price. The following are recommended for further practice whenever the student feels that those in the chapter on Exercises have been mastered: "The Art of Singing," by Garcia, published by Leonard and Co., London; "The Art of Singing," by Shakespeare, published by Metzler and Co., London; the exercises given in "Voice Production," by Holland, published by Wests, Ltd., London; the "L'Art du Chant," by Marchesi, published by Ricordi, London, in the "Edition Cranz"; "Solfeggi," by Concone, also by Ricci, as well as those by Bordogni, are excellent. There are many other publications of a similar nature, but the first-mentioned, "The Art of Singing," by Garcia, is considered by the author to be most comprehensive.

The Vowel Line.

The continuity of the vowel line in singing depends upon the continuity of the vowel sounds. Each vowel sound is formed by one definite conformation of the cavity and orifice of the mouth.

Consonant Sounds.

Consonant sounds are formed by certain adjustments of the tongue, lips, soft palate, etc. These adjustments interrupt and interfere with the free flow of the vowel sounds, creating a great variety of sounds, the majority of which cannot be pronounced without the assistance of the vowel sounds.

Activities of Lips and Tongue for Consonant Sounds.

In speaking the consonant sounds require a very generous use of the lips, tongue and soft palate for their articulation. In singing an even more crisp, rapid, forceful and accurate action of these parts is necessary. Over-emphasising of consonants interferes with the free flow of the music and vowel tone, creating unnecessary hissing, exploding, etc., which considerably detract from the artistic value of the performance. Under-emphasising of consonants makes the words obscure and the diction unintelligible.

All consonants should receive their due amount of emphasis, but they should be produced and left as rapidly as is consistent with accurate diction. Clear articulation and correct pronunciation are all that is required to make the text intelligible to the listener.

Sound Acquired by Consonants in Words.

The possible combinations of the consonants are countless, but a knowledge of the sound for which each stands is necessary to the vocalist. The names of the consonants are not of

so much importance to him as is his realisation of the sounds they acquire when used in conjunction with others and in certain relation to the vowel sounds.

Inaccuracies in Consonant Pronunciation. The Initial Consonant.

Inaccuracies in the pronouncing or accenting of consonants are found more frequently when they are initial ones than when in any other position. They are frequently over-emphasised or prefixed by some vowel sound in anticipation of their pronunciation. Words like "bright," "maiden," "pray," frequently display over-emphasis in the pronunciation of their initial consonant by being sounded "baright," "umaiden" (the "u" being preceded by a humming), "puray." Words like "ray," "yea," develop a preceding vowel sound, and become "aray" and "aiyea." Such errors should be avoided.

Two Consonants Together.

When two consonants come together at the beginning of a word, as *gl*, *pl*, *cl*, *tl*, they should receive their due emphasis. Words like "glory," "clean," should never be pronounced "clory" and "tleen." Extraordinary though it may seem, such inaccuracies are very common, especially in the words of songs.

Medial Consonants.

Consonants occurring in the middle of words present little difficulty in singing. Inaccuracies in the pronunciation of such are usually caused by careless and slovenly articulation. In many instances medial consonants are missed altogether. Words like "formal" become "fomal." In words like "little," "excellent," where two like consonants appear together, care should be taken to give each its due emphasis. Such words

should not sound "li-ill" and "ex-lent." On the other hand, over-accenting of mid-way consonants causes words like "sing-ing," "moment," "pasture," to be mispronounced "sing-ging," "mom-ment," "pash-ture."

Terminating Consonants.

The terminating consonant suffers more than any other from lack of attention in singing, and it is not unusual to find it being over-accented, slurred over, or missed altogether. In words terminating in *l*, *m*, *n*, *ng*—consonants which are semi-vowel sounds—there is a common tendency to give them more than their legitimate accent. Final "s" and "r" are also generally over-emphasised. Words like "fill," "bosom," "man," "sing," should not be sounded "fill-a," "bosom-m" (with the "m" hummed), "man-na," "sing-uh." The over-hiss of the "s" and over-roll of the "r" must be avoided.

Over-anxiety to pronounce final consonants causes such phrases as "As God the Lord" (first few words in Mendelssohn's "Elijah") to be sung "Asa-Goad-dah-tha-Loard-uh." Words like "keep," "plague," are in the same manner sung as "keepuh," "plague-ah," and suffering from the same treatment, words like "dearest," "heavens," become "de-are-ist" and "hea-vuns."

The terminating "ing" should always receive its full emphasis. Words like "bringing," "hoping," should never be pronounced "bringin," "hopin."

The Consonant "R."

The "*r*" is used a great deal in English, and there is no better criterion of the cultured speaker than the manner in which he uses this consonant. The final 'r" should receive its due accent. Words like "river," "bore," "former," should never be pronounced "wiv-ah," "bo-ah," "faw-mah." At the

same time it is as incorrect to sing "a-ruvair," "bo-ahr" and "foar-murr." "R" is never silent. It should be reasonably well trilled before all vowel sounds. Words like "dearest," "brave," etc., should be pronounced as such, and not as "deah-ist," "bo-ave." When "*r*" is not succeeded by a vowel sound, its trilling should be reduced to a minimum. When preceding a consonant the "*r*" should be very gently used. Words like "arm," "world," "chord," etc., should neither be pronounced as "ar-um," "wur-ruld," "caw-ard," nor "alm," "wald" and "cod." In certain parts of the English-speaking world "*r*" is added to certain final vowel sounds, which, although considered by some people as the thing to do, is entirely wrong. Words like "idea," "hallelujah," "law," "to-morrow," must never be pronounced "idear," "hallelujar," "lor" and "to-morror."

The Aspirate.

The aspirate "h" is worthy of consideration. Its formation depends upon the passage of breath through the mouth cavity, the shape of which is influenced entirely by the vowel sound preceding or succeeding the "h." When the "h" is the initial consonant, as in "hall," "hand," etc., the mouth cavity is shaped for the formation of the succeeding vowel sound before the "h" is sounded. That is, in "hall" the mouth is prepared for the "*aw*" sound; in "hand" for the "*a*" vowel sound. The "h" is then pronounced by the passage of breath through the cavity thus prepared. Nothing sounds more uncultured than the omission of "h" where it should be sounded, whether in speaking or singing.

Inaccuracies in consonant pronunciation may appear to the singer as unavoidable, but such is by no means the case. They are the results of carelessness, slovenly lip action, faulty breath control, or may result from the singer's misconception of what

the consonant sounds really are. All efforts the student makes in perfecting his consonant articulation will be adequately repaid by his acquiring a clean, crisp and correct diction, one of the greatest assets a singer can possess.

The number of vowel sounds, consonant sounds, syllable and word examples given in this chapter is necessarily very limited, but a detailed treatise on this branch of vocal training is contained in "Pronunciation for Singers," by Ellis, published by Curwen, London.

Chapter V.

VOICE PLACING.

Guidance of Voice Placing.

THE placing of the voice is a branch of vocal training which can be guided only by the analysis of sensations and by listening, together with a definite knowledge of what is being aimed at. The sensations produced by the singing of a properly placed note are stimulated into existence as the result of the correct co-operation of certain physiological factors. In order accurately to re-establish those sensations in the reproduction of a vocal note, it is necessary to understand their origin and influence.

After the control of the breath and the formation of the vowel sounds have been mastered, the student who is well equipped vocally may find himself able to produce a number of properly placed vocal tones. But such occasional accuracy of production and placing is unsatisfactory.

From the student's point of view, it is not sufficient to be able to sing correctly without realising at the same time how it is done. He should know what takes place, because in the absence of such knowledge the influence of any unusual circumstance which temporarily embarrasses him, might work havoc with his singing, leaving him in comparative ignorance of how to regain his vocal placing.

The physiological factors which co-operate in the maintenance of correct breathing have already been considered. They were found to stimulate, among other things, the sensations of an expanded chest and an open throat. When breathing is practised first of all, the sensations created by the exertions of the breathing muscles are so intense that they completely overshadow any others created by singing. It is not until the control of breathing has been transferred from the conscious to the sub-conscious mind that the sensations of the other muscular movements in voice production manifest themselves and become evident enough to be submitted to analysis.

The creation of the sensations associated with correct breathing must be practised until they can be called up at will by the singer. Their presence indicates that the body is prepared and properly adjusted for the production of voice. It is imperative that they should be established each time any vocal practice is attempted.

Preparation for Voice Placing Practice.

During voice placing practice they, along with other two sensations described below, must be established before the actual emission of tone is attempted.

Two of the other sensations are, first, that stimulated by the bracing up of the facial muscles as if about to smile, but without altering the normal lie of the mouth and lips, creating the smiling-voice quality, and, second, that sensation created as if the posterior end of the soft palate were being held up and forward. The former feeling causes a brightening of the entire vocal tone quality. The latter creates the sensation of assisting the vocal sound into the resonance cavities situated above the palates.

Three Important Sensations.

The influence of these three sensations, (a) the expanded chest and open throat, (b) bracing up of the facial muscles, and (c) the lifting up and forward of the soft palate, are of great importance to the forward placing of the voice.

The Spinning Breath.

The general sensations experienced in the placing of the voice, with the exception of those associated with the tongue positions (see chapter on Vowel and Consonant Sounds) are those of the sounding breath spinning forward into the vocal resonance cavities. On reaching those cavities, it completely fills them with a swirling volume of voice-creating air.

Focal Points.

When the voice is properly placed there is an additional sensation of the tone finding contact with certain parts of these cavities at certain focal points.

In the absence of an ability to place the voice correctly, the production of vocal tone may result in a variety of focal points being utilised, resulting in an uncertainty of tone quality. Some tones may be throaty, some dull, some back, some nasal, and perhaps some may be bright in tone and forward in placing.

Need for Analysis.

Should the student be fortunate enough naturally to place the voice correctly, he should analyse all the factors which co-operate in its production, and obtain and absorb a clear understanding of the nature and origin of the stimulus of the sensations experienced. He should repeat the production so as to establish firmly in his mind the idea of the tone quality and its correct placing.

It is seldom, however, that the beginner produces what could be considered a correct and properly placed tone.

Varied Focal Points at Will.

That it is possible to vary at will the voice placing or focal points can be proved by simple experiment. The voice can be placed through the nose, producing a very unpleasant nasal tone, it can be placed back in the throat, producing a hard throaty quality, it can be directed upwards behind the soft palate, producing a woolly characterless tone, it can be directed in many other ways, producing as many tone qualities.

Direction by Sensation.

This placing of the voice towards any focal point is directed by sensation only. The perfecting of the placing of the voice is similarly controlled and directed. It can be proved by personal experiment that such wrong vocal placing can be accomplished comparatively easily. It is reasonable to expect, consequently, that the correct placing of the voice can be accomplished with as great ease.

Value of Humming.

Humming is of great assistance in acquiring a forward placing. The internal mouth position for humming is similar to that required for the formation of the vowel sound "*o*" (as in grow), except, of course, that the lips should completely close the mouth opening by lightly touching each other. The tip of the tongue remains touching the back of the lower front teeth. The body of the tongue lies in concave formation on the floor of the mouth. It is most important that the teeth should be kept at least a quarter of an inch apart. In the absence of any abnormal formation of the teeth, little difficulty should be experienced in keeping the teeth apart, and at the same time keeping the lips closed.

Tone Direction for Humming.

The vocal tone is then directed towards the mouth and nasal cavities simultaneously, finding its focal point in the former at the meeting of the lips, and evidencing its presence in the latter at a point a little lower than the bridge of the nose.

Resonance Cavities Used in Humming.

The resulting hum derives its resonance from the mouth cavity, the maxillary and other air sinuses and the nasal cavities. The sensations stimulated should be of a buzzing, resonating feeling extending from the vicinity of the bridge of the nose to the cheek-bones, together with a feeling of vibration at the lips. Those sensations are all so intense, especially those felt at the lips, that the singer should never be in any doubt as to whether the hum is correctly placed.

Difficulties in Humming.

Difficulty in utilising the cavity of the mouth for the production of the hum may be experienced. Students are inclined to direct the hum through the nasal cavities only. To minimise this difficulty, precede the hum by the vowel sound "*a*" (as in father), thus, "*a-um*," keeping the teeth as far apart as possible as the lips meet. This will facilitate its correct placing and resonance.

After humming has been practised to the perfection of vocal resonance and placing, the resonance and placing of the nine selected vowel sounds should be treated similarly, utilising the humming as the foundation upon which to base their production.

Elementary Practice in Middle Registers Only.

All elementary practice of vocal resonance and tone placing should be confined to the notes of the middle registers. As proficiency is gained there the chest register may then be

treated. The resonance and placing of the upper register and head voice notes should be left until those of the middle and chest registers have been established.

TONGUE POSITIONS.

There must be no pressure on the tongue in its adjustment to the positions required for the various vowel sounds, but it must be made to conform to them with absolute accuracy. Much practice is necessary before this can be accomplished without throat tightening or tongue strain.

PLACING OF "EE" (AS IN MEET).

The placing of the vowel sound "*ee*" (as in meet) is the first to be considered. When properly placed it creates the sensation of finding its focal point on the roof of the mouth immediately behind the upper front teeth. Its resonance is obtained from the maxillary sinuses and the cavities of the nose, which should continue to resonate as in humming.

To facilitate the directing of the voice to its proper focal point in the production of "*ee*," the vowel sound should be preceded by the "hum." After the correct resonance and placing for the hum have been established, the mouth cavity should be gradually formed, by the action of the tongue and lips, into the necessary conformation for the production of the vowel sound. The only difference of placing and resonance between "*ee*" and the "hum" is that the focal point of the former is found where the hard palate meets the upper teeth, while that of the latter is at the meeting of the lips. Otherwise the tone directing is similar. The sequence of sounds for the resonance and placing of "*ee*" is as follows: "*a-um-ee.*" The hum gradually and slowly develops from the vowel sound "*a*," and the "*ee*" as gradually and slowly from the hum. Each sound must be established as regards both placing and resonance before the formation of its successor is commenced.

It must be noted that the actual direction of the "vocal line" for all singing must be straight through the mouth into the atmosphere (Figs. 12, 13, 14, 15), and never through the nostrils.

Placing of "oo" (as in Wooed).

The vowel sound "*oo*" (as in wooed) has a placing and resonance similar to that of "*ee*," the same resonance cavities being used. The vibration area extends as before from the bridge of the nose and to the breadth of the cheek-bones. The mouth cavity focal point for "*oo*" is in advance of that of "*ee*." The "*oo*" focal point creates the sensation of being on the edge of the lips, which form the circular opening of the mouth necessary for the formation of the vowel sound. The same process of placing should be employed. The sequence of sounds is as follows: "*a-um-oo*." Each sound, as in the resonance and placing of "*ee*," gradually and slowly develops into the succeeding sound, without loss of either resonance or placing, and with a gradually advancing focal point.

As the correct placing and resonance of the two vowel sounds "*ee*" and "*oo*" become established, the preceding "hum" should be dispensed with gradually. The vowel sounds should be practised, preceded by the consonant "*n*"—thus, "*nee*" and '*noo*"—and then alone until proficiency is gained in the placing and resonance of both.

Placing of "ai" (as in Maid).

The resonance and placing of the vowel sound "*ai*" (as in maid) are the same as those applied to the vowel sound "*ee*." Owing to the necessary adjustment of the tongue position for the formation of the vowel sound "*ai*" (as in maid)—"*ai*" having a lower tongue position than "*ee*"—more difficulty may be experienced in keeping the focal point of the "*ai*" at its position where the hard palate meets the upper teeth. In ad-

dition, there arises a strong temptation to allow the tip of the tongue to retreat from its contact with the back of the lower front teeth. The resonance derived from the air sinuses and the cavities of the nose is alike for both vowel sounds, and the process of placing for both is the same. The sequence of sounds is as follows: "*a-um-ee-ai*," the "hum" being developed into the "*ee*" sound and thence into the "*ai*." Again, the development of one sound from the other must be slow and gradual, and, of course, must be accomplished in one breath only, and to begin with, on one note. As with the other vowel sounds, the hum should be substituted by the "*n*" as proficiency is gained, and then "*ai*" practised alone.

PLACING OF "A" (AS IN FATHER).

Theoretically the vowel sound "*a*" (as in father) should be next for consideration, as its placing and resonance are similar to "*ai*" (as in maid). It should be realised, however, that the object of giving the voice a correct placing is to secure the greatest beauty of vocal tone possible, and not to secure a pure, or rather bare, vowel sound, in the true sense of the phrase. The sounds must be pleasant to hear, and must please the educated ear before they can be considered correct. From the standpoint of artistic tone formation, pure vowel sounds are inadmissible in singing, with two exceptions—"*ee*" (as in meet) and "*oo*" (as in wooed), and a little of the so-called purity must be sacrificed in order to acquire a greater beauty of tone quality.

The extent of this sacrifice of purity of sound depends upon many influences, including the relation between one sound and another in the same word, the pitch of the note on which the sounds are sung, the vocal register in which the note occurs, the customs and usages of the sound in speech.

It is possible to direct the vowel sound "*a*" (as in father)

towards a variety of focal points and resonance cavities, while at the same time causing each "*a*" to sound pure. Before the vowel sound "*a*" can be considered really correct from the standpoint of beauty of tone, its placing and resonance require to be considerably influenced by those of certain other vowel sounds. The most toneful and effective "*a*" is that which has a certain "*o*" (as in grow) quality in its placing, and some of "*e*" (as in bed) in its resonance. It is advisable, therefore, that the consideration of the two vowel sounds which act contributarily to "*a*" should be given priority of consideration.

Placing of "O" (as in Grow).

The vowel sound "*o*" (as in grow) creates the feeling of having two distinct focal points within the mouth cavity. The first is at a point on the hard palate, just above the commencement of its arching upwards and backwards from its contact with the upper teeth. The other is on the edge of the lips, which form the circular mouth aperture necessary for the formation of the vowel sound. The tone produces the sensation of striking the first focal point, whence it is directed to the second. Less resonance is derived from the cavities above the hard palate for "*o*" than for "*ee*," "*oo*" or "*ai*." The sensations of vibration continue, however, in the vicinity of the bridge of the nose and the air sinuses. More resonance is obtained for "*o*" than for the "*ee*," "*oo*," or "*ai*," from the area of the ethmoid cells (Figs. 12, 13, 14, 15).

The process of securing the correct placing and resonance for the vowel sound "*o*" (as in grow) is similar to that of the vowel sounds already considered. The preceding "hum" is slowly and gradually devloped into "*oo*." The "*o*" is then as gradually and slowly developed from the "*oo*." The sequence of sounds is as follows: "*a-um-oo-o*." As proficiency is gained in the placing of the vowel sound by this gradual method, it

should be practised preceded by the consonant "*n*"—thus "*no*" —and then alone until its unaided placing becomes comparatively easy.

The tone of "*o*" should have some of the quality of the vowel sound "*aw*" (as in bawl) in it. This is secured by depressing the tongue in its central area, from the position it held for the formation of the vowel sound "*oo*." The tip of the tongue, however, remains touching the back of the lower front teeth, as in the other sounds. The sensations of the expanded chest and open throat, the holding up and forward of the soft palate, and the bracing up of the inside walls of the cheeks, should be maintained as in all vowel sounds.

PLACING OF "E" (AS IN BED).

The vowel sound "*e*" (as in bed) is placed and obtains its resonance similarly to the vowel sound "*ai*" (as in maid) with two differences. One is found in the degree of tongue elevation, which is less for "*e*" (as in bed) than it is for "*ai*" (as in maid). The other is in the resonance areas, which in "*e*" (as in bed) appears to be more confined to the anterior and posterior ethmoidal cells than to the maxillary sinuses (Figs. 12, 13, 14, 15). The feeling of vibration is still maintained at the bridge of the nose. In the singing of "*e*" in the lower middle and chest registers additional resonance is derived to some extent from the sphenoidal sinuses (Figs. 12, 13, 14, 15).

PLACING OF "A" (AS IN FATHER), (CONTINUED).

The correct placing of the voice in the production of the vowel sound "*a*" (as in father) retains those sensations experienced in the placing of the vowel sound "*o*" (as in grow), except that in "*a*" there is the establishment of a single mouth focal point. In the vowel sound "*o*" the voice was found to strike the hard palate at the beginning of its upward arch and to resume its

outward course thence until it found contact with the circular mouth aperture formed by the position of the lips. The focal point for the vowel sound "*a*" (as in father) is slightly more forward than the first one used in the correct placing of the vowel sound "*o*." The voice feels as if it travels along the hard palate until it finds contact with the upper front teeth. From there it creates the sensation of being curved down and forward, and redirected as in "*o*," but, finding no contact with the lips on account of their altered position and shape—the mouth being considerably further open for "*a*" than for "*o*"—it travels outwards and downwards between and past them. The tongue position remains for "*a*" as for "*o*." This similarity of mouth position and placing adds to the sound of the "*a*" a certain degree of the "*o*" quality. The resonance for the vowel sound "*a*" (as in father) is for the most part obtained from the nasal cavities and the maxillary sinuses (Figs. 12, 13, 14, 15)—that is, for the middle and chest register notes, which are the only ones being considered meantime—and is very similar to that obtained for the vowel sound "*ai*" (as in maid). The vowel sound "*a*" derives additional resonance from the ethmoidal cells and the sphenoidal sinuses (Figs. 12, 13, 14, 15) similar to that obtained for the vowel sound "*e*" (as in bed). This "*e*" (as in bed) resonance with which "*a*" is flavoured, produces a softening of the otherwise hard quality of a pure, bare "*a*." The vibration at the bridge of the nose and the cheek-bones felt in "*ai*" continues in "*a*," but to a slightly reduced degree. There must be no feeling of throat activity. The elevation of the soft palate, however, must be maintained.

Placing of "aw" (as in Bawl).

The placing and resonance of the vowel sound "*aw*" (as in bawl) are similar to "*a*." In the former the tongue is more depressed in its central area, and the mouth aperture more

rounded. The process of obtaining the placing and resonance for the vowel sound "*a*" proceeds as in the other vowel sounds. Commencing with the 'hum," the voice develops directly into the vowel sound "*aw*" (as in bawl), and thence into the vowel sound "*a*" (as in father). The sequence of sounds is as follows: "*a-um-aw-a.*" When that sequence has been practised the voice should proceed through the vowel sounds "*e*" (as in bed) and "*o*" (as in grow) to the "*aw*" and "*a*" in the following sequence: "*a-um-e-o-aw-a.*" A rounding of the quality of the "*a*" sound can be obtained by the singing of single notes in the middle registers to "*no-a.*" "*No*" is produced first of all softly and then gradually *crescendoed* to full voice. During the accomplishment of the *crescendo* the internal mouth position for the "*no*" is retained, but the lips are gradually adjusted to the "*a*" position. The tip of the tongue should touch the back of the lower front teeth throughout. Keep the tongue forward and the tone will remain there, too. When the auxiliary sounds can be dispensed with, the "*a*" and "*aw*" should be practised with the consonant "*n*"—thus, "*na,*" "*naw*"—and then alone.

After the resonance and placing of the "hum" and the vowel sounds "*ee*" (as in meet), "*ai*" (as in maid), "*oo*" (as in wooed), "*o*" (as in grow), "*e*" (as in bed), "*aw*" (as in bawl), and "*a*" (as in father) have been mastered and can be reproduced with reasonable ease and success, the treatment of the two remaining vowel sounds of the nine selected, viz., "*i*" (as in high) and "*u*" (as in feud), present little difficulty. Both of those diphthong sounds are made up of a combination of two of the vowel sounds already considered.

Placing of "I" (as in High).

The diphthong "*i*" (as in high) is made up of the combination of the vowel sound "*a*" (as in father) narrowed in tone

by a slight posterior elevation of the tongue with the shortest of "*e*" sounds (as in bye). The narrow "*e*" termination sound of the diphthong "*i*" must not be confused with the vowel sound "*e*" (as in bed). The placing and resonance of the narrow "*e*" depends upon the narrowed vowel sound "*a*," which is the main part of the combination of the diphthong "*i*." This "*e*" has no individual resonance or placing, and is formed by a momentary elevation of the posterior area of the tongue, which action terminates and completes the diphthong "*i*." The difference between the vowel sound "*e*" (as in bed) and the narrow "*e*" found in the "*i*" sound, lies mostly in the action of the tongue which, in the former, is made to remain in its slightly elevated position throughout the sounding of the vowel. The process of resonance and placing of "*i*" are, like all other vowel sounds, facilitated by humming. The sequence of sounds is as follows: "*a-um-ae-i.*" As the hum is dispensed with the diphthong is practised with the consonant "*d*" (not "*n*" as before) thus "*di*," and then alone.

Placing of u (as in Feud).

The diphthong sound "*u*" (as in feud) is made up of the combinatian of the two vowel sounds "*ee*" (as in meet) and "*oo*" (as in wooed). The placing and resonance of these two vowel sounds have been considered already and those of "*u*" are a combination of them. The sequence of sounds is "*a-um-ee-oo.*" As proficiency is gained it is practised to "*new*" and then to "*yew.*"

All the above vowel sounds should be practised until they can be correctly produced on all the notes of the chest, lower middle and upper middle registers with ease, with a maximum of resonance and with accuracy of placing.

Chest Resonance.

Additional resonance is supplied to the lower register notes by the upper chest. The most definite of the sensations stimulated there is a slight vibrating of the upper part of the chest when the upper notes of the chest register are sung. This increases in intensity as the voice descends.

Chest resonance greatly increases the sonority of the vocal tone, but care must be taken that it does not interfere with the correct placing of the voice. Contraltos and basses must guard against allowing the placing of the voice to recede from its focal points, producing a hollow, thick tone quality, in order to obtain a maximum of chest resonance.

Vowel Combinations.

The following combination of vowel sounds is suggested for practice in securing a maximum of resonance combined with accuracy of placing.

Each group should be commenced by humming. Each sound should be developed slowly and gradually into the succeeding sounds of the group. The sensations stimulated by the various influences described earlier in this chapter must be established first and must be maintained throughout all practice. The placing exercises should be sung to single notes to begin with, the other exercises being brought into use as facility in placing and resonance is acquired.

a-um-ee-ai	*a-um-ee-ai-aw*	*a-um-ee-ai-aw-a*
a-um-o-oo	*a-um-o-oo-aw*	*a-um-o-oo-aw-a*
a-um-ee-ai-o	*a-um-ee-ai-o-aw*	*a-um-ee-ai-o-aw-a*
a-um-oo-ee-o-ai-a	*a-um-ee-ai-o-oo-a*	
a-um-ee-e (as in bed)	*a-um-ee-ai-e-o-a*	*a-um-ee-ai-i*

The resonance and placing of each vowel sound should be

practised until all the vowel sounds can be sung in any sequence on one single continuous note without alteration of resonance or placing.

Placing of Upper Register Notes.

The placing and resonance of the notes of the upper registers of all vocal classifications differ from those employed in the middle and chest registers to a degree depending upon the type of voice.

Bass and Baritone Upper Registers.

The upper register of the bass and baritone voices, consisting of from about two to perhaps four or five semitones in the bass voice, and from about four to five or six semitones in the baritone voice, require only a slight alteration of resonance and placing positions for the production of the same vowel sound.

The sensations created by the production of the vowel sounds in the upper register notes of these voices are first felt as an upward and slightly backward movement of the focal point. The more the singer thinks the focal point down the further forward will the voice placing be maintained. The focal point has a greater tendency to slip back into the throat in the upper registers than in any other part of the vocal compass. The higher the note the more persistent is the tendency, and the forward placing of the upper register notes requires at first considerable mental and physical effort.

Modification of Pronunciation in Upper Registers.

Certain of the vowel sounds require to be considerably modified in quality in order to retain their beauty of tone and, at the same time, to reduce the physical strain of their production to a minimum. For example, the vowel sound "*ai*" (as in maid) has a tendency to develop into the "*e*" (as in bed) sound when sung by the bass or baritone in the upper register.

In order to counteract this tendency the "*ai*" sound should be made to assume a degree of the "*ee*" (as in meet) vowel quality. The vowel sound "*a*" (as in father) should acquire a degree of the "*o*" (as in grow) quality as the higher notes are reached, "*o*" (as in grow) a degree of the "*oo*" (as in wooed) quality, and so on. It should be noted that "*a*" (as in father) does not change into "*o*" (as in grow) on the top notes but merely assumes a certain degree of "*o*" quality. And so with the other vowel sounds.

Position of Lips.

The position of the lips for the production of vowel sounds in the upper register should not be allowed to alter from that required for the same vowel sound on notes of the other registers. Alteration in the mouth shapes produces relative alterations in the character of the vowel sounds.

Resonance Areas in Bass or Baritone Upper Register Notes.

In the bass and baritone voices the areas from which resonance is obtained for upper register notes have a different location from those of the other registers. The influence of the chest register resonance is felt throughout the entire compass of those voices, but is less marked in the upper notes than in the lower. The resonance areas ascend for the upper register notes, extending from the vicinity of the bridge of the nose and the maxillary sinuses to the frontal sinuses, producing the feeling of obtaining additional resonance from the upper reaches of the nasal cavities (Fig. 12). The feeling of vibration extends from the bridge of the nose upwards to a point between the eyes where the forehead joins the nose. The other sensations stimulated by the production of the upper register notes suggest that only the upper parts of the maxillary sinuses are being utilised,

and that the anterior ethmoidal cells are also contributing their share of resonance (Fig. 12).

The highest notes of the bass or baritone voice should not be attempted until those immediately lower can be produced and placed with comparative ease.

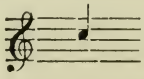
Need to Sing Down on the Voice.

The placing of all the upper register notes should be kept down. The higher the note the further down it should be pressed. By practice the physical effort brought to bear upon the attainment of this downward placing can be reduced so much that the mere thinking downward and forward of the placing will be sufficient to secure the correct focal point and resonance area for any upper register note on any vowel sound.

Placing of Tenor Voice.

In the tenor voice the placing and resonance of the notes of the chest, lower and upper middle registers are similar to those of the bass or baritone. In the tenor's upper register the focal points of the vowel sounds remain the same, but the resonance creates the sensations of being obtained from a higher position than that prevailing in the baritone voice.

Upper Register Sensations.

The lower notes of the upper register produce the feeling of securing their resonance from the cavity of the nose, and the frontal and maxillary sinuses (Fig. 13). As the voice ascends to the point at which the upper register merges into and blends with the head voice, the area of resonance travels slightly backwards. When notes in the vicinity of  are reached, the line of vocal direction appears to pass through a point between the anterior and the posterior ethmoidal cells (Fig. 13)

BARITONE AND BASS.

Vocal Register.	Resonance Areas Used.
Upper Register	(A) + (C) + (D) + (F) + (G) + (H) + (K).
Upper-middle Register	(B) + (C) + (D) + (F) + (G) + (H) + (K).
Lower-middle Register	(B) + (C) + (D) + (F) + (G) + (H) + (K).
Lower or Chest Register	(C) + (D) + (E) + (F) + (G) + (H) + (K).

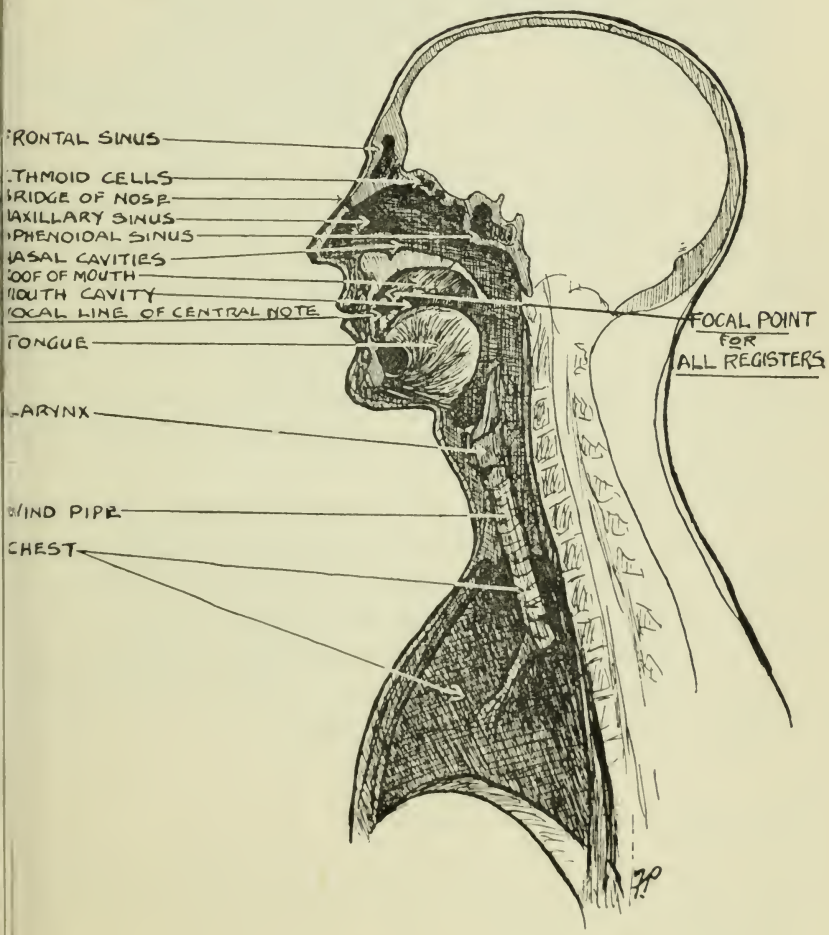


Fig. 12.

when the voice stimulates the sensation of passing through the top front of the head before it curves forward and downward to meet the vocal line (Fig. 13). Up to that note the influence of chest resonance should be maintained for ordinary tone production and, like the other male classifications, the tenor should keep the voice forward and down in placing. All the vowel sounds require the same modification of pronunciation as in other voices.

Tenor's Head Voice.

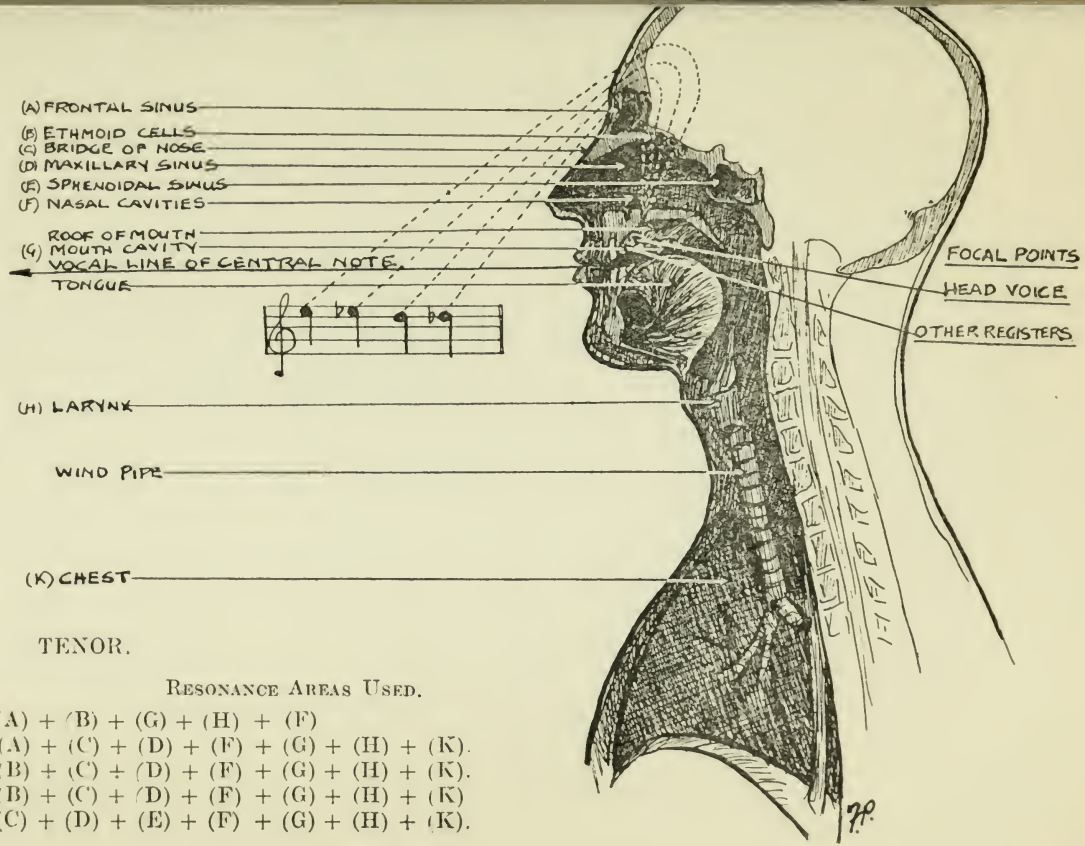
When the head voice—which is quite distinct from the upper register—is employed, the chest resonance is almost entirely substituted by one from a higher position, the resonance line in the head voice appearing to pass upwards through the sphenoidal sinuses (Fig. 13). The voice creates the sensation of being directed forward through the head, although its resonance continues to include a proportion which decreases as the voice ascends of that displayed by the notes of the upper middle and upper register.

The tenor head voice is not a separate register. It is that part of the voice composed of a combination of upper register quality with falsetto and in which the chest resonance is superseded by that obtained from the head cavities.

The tenor should never allow his head voice to sing up in the air but should keep it placed far enough down to give him the feeling of having adequate control over it.

Placing of Contralto Voice.

In the middle and chest registers of the contralto voice the focal points and resonance areas of the vowel sounds are the same as in the baritone.



TENOR.

Vocal Registers.	Resonance Areas Used.
Head Voice	(A) + (B) + (G) + (H) + (F)
Upper Register	(A) + (C) + (D) + (F) + (G) + (H) + (K).
Upper-middle Register	(B) + (C) + (D) + (F) + (G) + (H) + (K).
Lower-middle Register	(B) + (C) + (D) + (F) + (G) + (H) + (K)
Lower or Chest Register	(C) + (D) + (E) + (F) + (G) + (H) + (K).

Fig. 13.

Contralto's Upper Register.

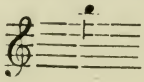
The placing and resonance of the upper register notes of the contralto voice usually present considerable difficulty. Although the influence of the chest resonance should be maintained through the whole compass of the contralto's chest and middle registers, the degree of such influence in the upper notes of the upper middle register must be reduced according to their proximity to the lower notes of the upper register. The taking-over of the supplying of resonance by the head cavities commences about the central notes of the upper middle register. The amount of chest resonance retained by any of the upper middle register notes is gradually reduced as the voice on ascending approaches the first note of the upper register in which the influence of chest resonance is absent.

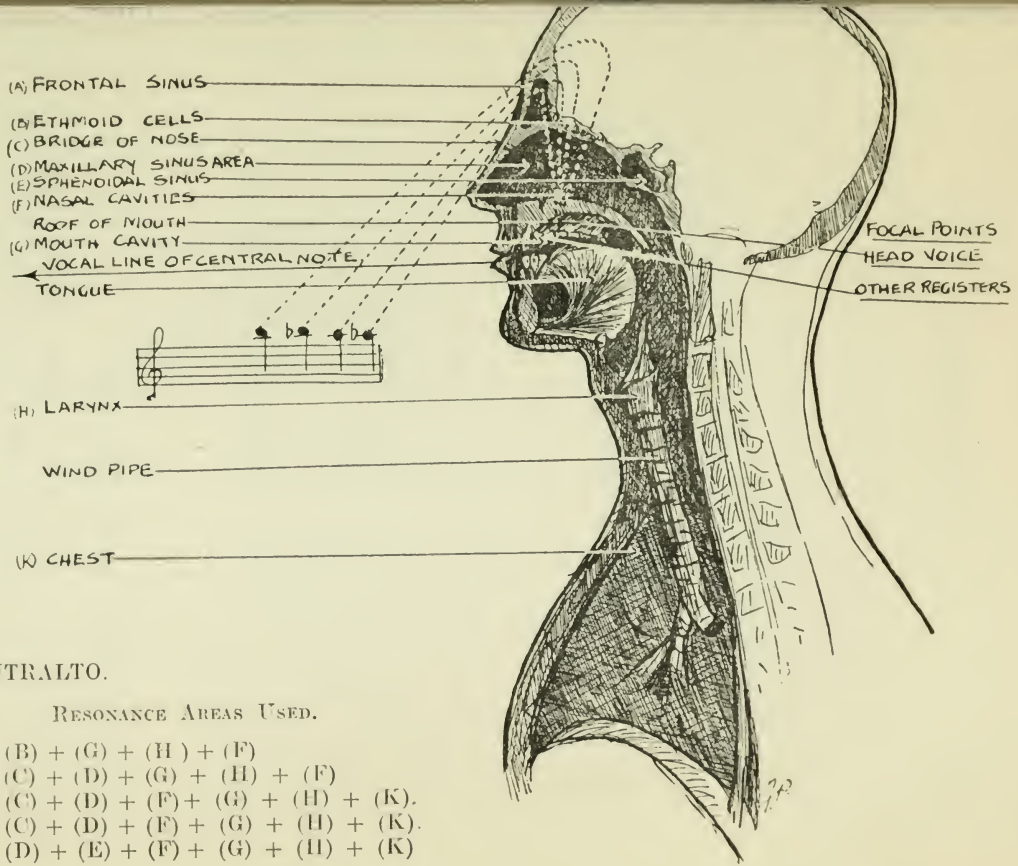
The contralto should think the placing and resonance of the upper register notes forward and down, and at no time should the resonance areas lie higher than the frontal sinuses (Fig. 14). The nasal cavities should contribute their share of the resonance throughout the whole compass.

Resonance Areas of Contralto's Upper Register.

The feeling of vibration in the vicinity of the bridge of the nose experienced in the other registers, should be continued with increased intensity in the upper register, and with a gradual increase upwards of the area affected, until the higher notes of the upper register extend the feeling of vibration to the area between the eyes. The same modification of the pronunciation of the vowel sounds for the upper register notes is as necessary for the contralto as for the other classifications.

Contralto's Head Voice.

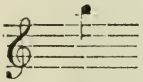
The head voice of the contralto which sometimes extends as far as  is seldom utilised in singing. It should be



CONTRALTO.

Vocal Registers.	Resonance Areas Used.
Head Voice	(A) + (B) + (G) + (H) + (F)
Upper Register	(A) + (C) + (D) + (G) + (H) + (F)
Upper-middle Register	(B) + (C) + (D) + (F) + (G) + (H) + (K).
Lower-middle Register	(B) + (C) + (D) + (F) + (G) + (H) + (K).
Lower or Chest Register	(C) + (D) + (E) + (F) + (G) + (H) + (K)

Fig. 14.

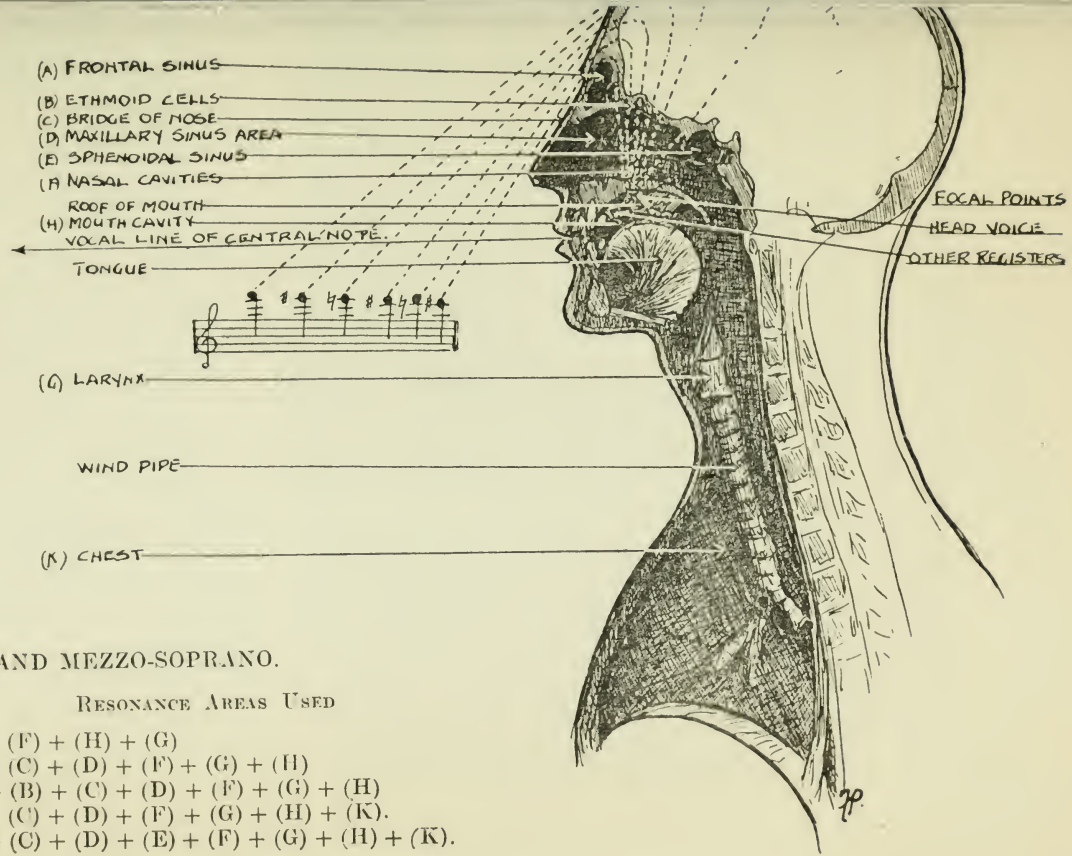
remembered, however, that a much finer tone can be introduced into the quality of the upper notes of the contralto's upper register by the influence upon them of a correctly formed head voice. The focal points of the contralto's head notes lie slightly further back than those of the upper register and the areas from which they secure their resonance travel gradually backwards as the pitch ascends, the resonance area for  appearing to lie as far back as the sphenoidal sinuses (Fig. 14).

Placing of Mezzo-Soprano and Soprano Upper Registers.

The upper registers of the mezzo-soprano and soprano voices have focal points and resonance areas similar to those of the tenor, except that in the case of the resonance areas, the chest influence is almost absent. As in other classifications the vowel sounds require the same modifications of pronunciation as the pitch ascends.

Upper Register Resonance Areas.

From the point where the upper middle register merges into the upper register, the area from which the resonance is obtained gradually ascends with the pitch from the maxillary to the frontal sinuses (Fig. 15). The soprano experiences the sensation of deriving resonance for the middle notes of the upper register in equal volume from each of these sinuses. When the highest notes of the upper register are reached, resonance is obtained from the nasal cavities and the frontal sinuses only. The vibrations felt in the vicinity of the bridge of the nose extend upwards to a point between the eyes (Fig. 15).

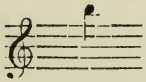


SOPRANO AND MEZZO-SOPRANO.

Vocal Registers.	Resonance Areas Used
Head Voice	(A) + (F) + (H) + (G)
Upper Register	(A) + (C) + (D) + (F) + (G) + (H)
Upper-middle Register	(A) + (B) + (C) + (D) + (F) + (G) + (H)
Lower-middle Register	(B) + (C) + (D) + (F) + (G) + (H) + (K).
Lower or Chest Register	(B) + (C) + (D) + (E) + (F) + (G) + (H) + (K).

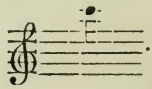
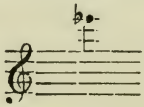
Fig. 15.

Mixed Production of Mezzo-Soprano Highest Notes.

The upper register of the mezzo-soprano extends to about  , but two or perhaps three semitones may be added to this compass by a skilful mixing of the quality, resonance and placing of the upper notes of the upper register with that of the head voice tones. The placing of this mixed voice recedes slightly from that required for the notes of the other registers, but only far enough to eliminate any tendency to shrillness of quality in the highest notes. The area from which the auxiliary resonance is obtained for the mixed voice lies in the vicinity of the anterior ethmoidal cells, but the main resonance is contributed by the frontal sinuses (Fig. 15).

In the soprano voice, the placing and resonance are the same for the upper register as in the mezzo-soprano. In the former the head voice plays a much more important rôle in the placing and production of the highest notes of the upper register and in the construction of the voice generally.

Soprano's Head Voice.

The blending of the soprano upper register notes with those of the head voice commences at about  . The first notes to be *mixed* retain more of the placing and resonance of the upper register than those of the true head voice notes, which are thinner and more flute-like in quality. As the soprano voice ascends, however, the influence of the upper register resonance and placing decreases, until eventually at about  the voice acquires a purely head resonance and placing.

Resonance Areas of Soprano's Head Voice.

These head notes of the soprano, when properly developed and correctly placed, produce a very fine, clear, flute-like quality. The head voice is an essential part of the soprano's equipment and can be trained to display great flexibility. In the soprano head voice the focal points of the vowel sounds are considerably further back than in the other registers (Fig. 15) and appear to derive a minimum of resonance from the front of the mouth cavity. The resonance areas recede as the notes ascend until the voice creates the feeling of passing through or even behind, the sphenoidal sinuses (Fig. 15). Its production stimulates the sensation of passing straight up through the top of the head before it curves forward and downward to meet the vowel line which should be persistently thought of as passing straight through the mouth cavity into the atmosphere. As the tones of the soprano head voice ascend in pitch the soft palate feels more concave downwards while the tip of the uvula also feels held higher and pressed further forward.

Skilled Supervision Essential in Voice Placing Practice.

As success in resonance and voice placing depends upon the analysing of all produced vocal tones by the ear, together with a complete realisation of the physical sensations which should manifest themselves when the voice is correctly produced, it is highly dangerous for the inexperienced to rely upon his own judgment and analytic ability in this department of vocal training. When the student is unable to secure the services of an experienced and qualified teacher it is advisable for him to obtain assistance in his voice resonance and placing practice from one possessed of a keen musical ear, who has heard and can appreciate good vocal tone.

Chapter VI.

VOCAL EXERCISES.

Importance of Technique.

TECHNIQUE is as important to the singer as it is to the instrumentalist and is acquired in the same manner—by the practice of certain exercises and studies.

There is no royal road to success in this department of voice training, although study may be made less tedious if a solid foundation of vowel-sound-forming and placing be laid before the acquisition of a more advanced technique is attempted.

Foundation of Technique.

In the following exercises an attempt has been made to supply the means by which that foundation may be laid, but real and lasting progress will not depend upon the exercises themselves but upon the accuracy and perseverance with which the student applies them.

The practice of the forming and placing of the vowel sounds should be continued in the exercises specially recommended until the formation and placing of all the vowel sounds have been mentally absorbed.

Application of Intelligence.

According the exercises physical effort only—singing them parrot-wise—is futile. Each exercise requires as much mental

as physical effort, and the student should be satisfied with nothing but intelligent, analytic practice. He should understand the reason for the application of any particular exercise as well as the nature of the benefit expected from it. Each exercise should be worked at until the vocal tone gives evidence of at least some improvement upon previous attempts. The student should listen intently to the results of his own vocal efforts as he practises. He should be aware of every shade of tone colour and understand how it is produced.

Danger of Speed.

Speed is the greatest hindrance in the acquisition of compass and volume of tone, for these desirable qualities cannot be developed in a hurry. Forcing the pace and forcing the voice invariably result in vocal failure. Slow, steady work is the only safe plan. The voice is wonderfully reciprocal to correct treatment, but it will not be driven. If it is coaxed aright, if the speed of its training is so regulated that everything practised is given sufficient time to sink in before new vocal conquests be undertaken, satisfactory results will then be obtained in an amazingly short time.

Voice Equalisation.

Seldom are any two notes in an untrained voice of exactly the same strength, and the danger of forcing the weaker ones to the strength of the others must be stressed. The weaker notes should be developed gradually, the stronger ones being restrained meantime so that a level strength of voice and an equality of tone may be maintained. The exercises given below, which may be called foundation exercises and which lay no claim to being anything in the nature of a complete vocal course, do not include scales suitable for the treating of the higher notes. They should not be applied to notes of a higher pitch than the lower limits of the upper register.

Flexibility Necessary for all Voices.

Flexibility-exercises and those suitable for the practice o such vocal ornaments as the trillo, mordent, grupetto, and s forth, are also omitted in this work, but the student's atten tion is directed to the various books of vocal exercises alread recommended.

Every voice should be flexible and trained in the executio of all vocal ornaments. It is usually taken for granted, al though quite incorrectly, that the heavier types of voices d not respond to flexibility-exercises. Heavy voices do not re spond so readily as the light soprano type, of which flexibilit is one of the main characteristics, but they do respond. Flexi bility of voice is as important to the bass as it is to the soprano

No Actual Altitude in Pitch of Notes.

The pitch of musical sounds is worthy of attention. On commonly speaks of high notes and low notes, but it shoul be realised that sound does not acquire actual altitude as i ascends in pitch. The high notes are not high up towards th ceiling, nor are the low notes low down towards the floor. I is much safer to think of the former as fast notes and the latte as slow. The high notes are created by vibrations of a hig speed, and in the voice a greater tension is required for thei production than for the lower notes with their slower vibra tions. The student is advised to keep these facts before hi during vocal practice. They will probably eliminate any ten dency to stretch the neck and rise on the toes to reach for th high notes and to draw in and down the chin and scoop fo the low ones. The difficulties of getting away from the men tal impressions of altitude formed by the usual terms of mus cal pitch are naturally considerable, but the student shoul

strive for a happy medium by *always thinking his high notes down and his low notes up to the central note of his voice,* which is produced with the mean of tension.

Duration and Frequency of Practice.

The duration and frequency of practice are important. At first, practice should not last for more than fifteen minutes at a time, and should not exceed two practices daily. The duration of each period should be gradually increased to half-an-hour, and the number of practices to three or four daily, as the voice develops power and endurance. Even for the advanced student, several periods of half-an-hour each are more beneficial than one long period. Practice must not be continued long enough to bring on vocal fatigue, but a healthy tiredness can be taken as a sure sign that the exercises are accomplishing the work for which they are intended.

Breath Control First Necessary.

It is imperative that the first few singing lessons be concentrated upon obtaining the correct idea of breathing and breath control, without which voice placing is impossible. Consequently, voice production should not be attempted until the student evidences a reasonably good breath control.

First Three Vowel Sounds.

The first three vowel sounds to be formed and placed should be:

(a) "*ee*" (as in meet).
(b) "*ai*" (as in maid).
(c) "*oo*" (as in wooed).

The forming and placing of these vowel sounds should be practised to begin with in the middle registers of the voice to the single note exercises only. As proficiency is gained there,

practice can be extended to the lower register, and then to the lower notes of the upper register, but not until the middle and lower registers have been reasonably well placed. The other six of the vowel sounds recommended are then treated similarly in their proper sequence.

Transposition of Exercises.

The foundation exercises given below are written for the mezzo-soprano, but of course are applicable to any of the vocal classifications, if suitably transposed.

Suppression of Forcing.

All forcing must be rigorously suppressed, and any overstepping of register pitch limits must be carefully avoided.

Preparation and General Instructions for Singing Exercises.

General instructions for practice.

(1) Take up correct singing stance.

(2) Slowly inhale a good supply of breath through the nose.

(3) Keep the chest up, ribs expanded, lower frontal abdominal wall flat, upper frontal abdominal wall advanced (see chapter on Breathing).

(4) Maintain the feeling of the expanded chest and open throat.

(5) Keep the larynx in its correct low position from underneath (see chapter on Breathing).

(6) Keep the facial muscles relaxed, look pleasant, but avoid all facial contortions.

(7) Keep the jaw slack.

(8) Adjust the mouth cavity to the required position by lowering the jaw, not by raising the head.

(9) Lightly place the tongue and lips as required.

(10) Keep the tip of the tongue touching the back of the lower front teeth for all the vowel sounds. The further back the tip of the tongue, the further back the voice placing.

(11) Before sounding the note, place the mouth into the formation required. Hold the breath for two beats. At the same time think of the pitch, quality and placing of the note to be produced. Keep the mouth position steady. The sequence is as follows:

Take in breath as in (2) above. Adjust mouth cavity as in (8) above. Place tongue and lips as in (9) above. Hold mouth position and breath for two beats. Produce tone.

(12) Attack the tone clearly and without any spasmodic effort or jerkiness.

(13) Eliminate all feeling of throat activity. Throat tension is one of the causes of vibrato—*an unpardonable vocal fault.*

(14) Avoid scooping up or slurring down for notes. (Scooping is commencing a tone considerably lower than the required pitch and gradually though quickly slurring up to the correct pitch.)

(15) Counteract any tendency to nasality by keeping the soft palate up and forward.

(16) Form and place all vowel sounds with care and exactness.

(17) Unless otherwise indicated, use almost the full strength of voice throughout the exercises, but avoid shouting and maintain a singing quality.

(18) Each note in the scale should touch its neighbour, but there must be no slurring.

(19) Modulate all exercises downwards, and sing scales downwards whenever possible.

(20) Exact intonation is imperative.

(21) A level strength of tone must be kept.

(22) Avoid all pumping of notes, i.e., giving each note in a scale a *crescendo* and *diminuendo* of its own.

(23) All notes higher than the central note of the voice should be sung down to the vocal line, and all notes lower sung up to it.

First Few Lessons.

The first few singing lessons should be concentrated upon learning the correct singing stance, obtaining the correct idea of breath control, and experiencing and analysing all the physical sensations which accompany both. Actual singing should not be attempted until this preparation has been made, for vocal faults—throatiness, vibrato, vocal wobble, pumping, etc. —can more often be traced to lack of this preparation than to any other cause.

After this preparation has been completed, the student's next task is to learn to hum correctly.

Humming.

By humming, all the resonance cavities of the voice can be brought into play and their influence more easily retained as the hum is developed into the particular vowel sound to be practised. The hum is also of considerable assistance in obtaining correct voice placing.

There must be no singing through the nose. Nasal resonance and nasality are two distinct things, the latter being the result, usually, of faulty soft palate action.

The hum, the correct mouth position for which will be found in the chapter on Voice Placing, should be practised to the following sets of exercises: Nos. 1, 2, 3, 4, 5, 6, 7.

Practice of the Vowel Sound "ee" (as in Meet).

"*Ee*" (as in meet) has naturally the most forward placing of all the vowel sounds. The tongue and lip positions for "*ee*" are detailed in the chapter on vowel and consonant

sounds. For the forming and placing of the "*ee*" the hum already detailed should be utilised as follows. Commence by humming. Gradually, but not too slowly, develop the hum into the "*ee*." The sequence is as follows. Inhale—adjust mouth cavity—hold breath and mouth position for two beats—hum—develop the hum into the "*ee*." The forming and placing of the "*ee*" should be confined at first to the following sets of exercises: Nos. 1, 2, 3, 4.

As proficiency is gained in the production of "*ee*" with the assistance of the preliminary hum, practice should be continued by singing all the other exercises to the syllable "*nee*," and then to the vowel sound "*ee*" alone.

Application of Intelligence.

During the process of acquiring the correct formation and placing of the vowel sounds, the student is expected to use his intelligence and all the vocal knowledge at his command to perfect his voice production. Practice unsupported by intelligent and analytic thinking is sterile and worthless. *The mere repetition of the exercises* will not produce progress. Each exercise should be thought out step by step.

Formation and Placing of the Vowel Sound "ai" (as in Maid).

The tongue and lip position for "*ai*" are detailed in the chapter on Vowel and Consonant Sounds. Until the correct production of the "*ai*" has been acquired, the practice of its forming and placing should be confined to exercises Nos. 1, 2, 3, 4.

The preparation for this practice of "*ai*" is similar to that for "*ee*," and is as follows. Commence with the hum. Develop the hum gradually and not too slowly into the vowel sound "*ee*." Thence gradually, and with loss of neither placing nor resonance, into "*ai*." The "*ai*" is developed from the "*ee*"

by a slight alteration in the internal mouth position only, the placing and resonance remaining the same. The sequence of sounds for the practice of "*ai*" to the single note exercises is as follows: inhale—adjust mouth cavity—hum—develop into "*ee*"—gradually develop into "*ai*," i.e., "*hum-ee-ai.*"

As proficiency is gained in the production of "*ai*" the preliminaries should be dispensed with, and the vowel sound practised to the other exercises through the syllable "*nai*," and then to the vowel sound "*ai*" alone.

The Other Vowel Sounds.

The same process is applied to all the other vowel sounds. They are sung to the single note exercises, sets Nos. 1, 2, 3, 4, and in this practice the preliminary hum is used. As soon as possible these preliminary sounds are dispensed with, and the vowel sounds sung to the other exercises prefixed by the consonant "*n*" and then alone.

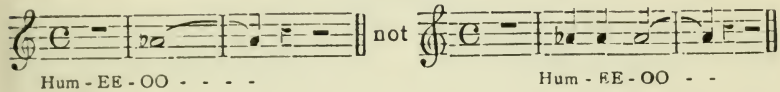
Outline of Method of Using Vowel Sounds and Exercises.

Details of all the vowel sounds with gradually decreasing preliminary sounds are as follows:

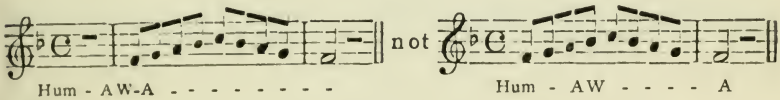
Vowel sound.	As first practised to single note exercises, sets Nos. 1, 2, 3 and 4.	As second practised to all exercises.	As finally practised to all exercises
ee (as in meet)	Hum—*ee*	*n-ee*	*ee*
ai (as in maid)	Hum—*ee-ai.*	*n-ai*	*ai*
oo (as in wooed)	Hum—*ee-oo*	*n-oo*	*oo*
o (as in grow)	Hum—*ee-oo-o*	*n-o*	*o*
e (as in bed)	Hum—*ai-e.*	*n-e*	*e*
aw (as in bawl)	Hum—*ai-aw*	*n-aw*	*aw*
a (as in father)	Hum—*e-o-a*	*n-a*	*a*
i (as in high)	Hum—*ai-i*	*n-i*	*di*
u (as in feud)	Hum—*ee-u*	*new*	*ee-u*

Application of Vowel Sounds to Exercises.

The practice of the sounds recommended in column two above, i.e.—hum—*ee*, hum—*ee-ai*, hum—*ee-oo*, etc., should be done so that the terminating vowel sound is the sustained sound of the exercise. In other words, the preliminary sounds should be sung so as to allow the vowel sound for which the exercise is being specially practised, to receive its full attention. The first exercise in set No. 1 would be sung for the "*oo*" vowel as follows:



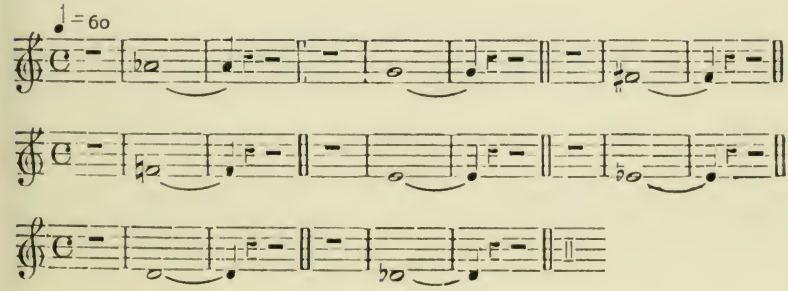
In column three above, the same principle applies. The terminating vowel sound of the series is the important sound, and must receive adequate attention. For example, in exercise No. 10, the sounds *hum aw-a* are developed into the last sound on the first note of the exercise before the exercise is continued thus:



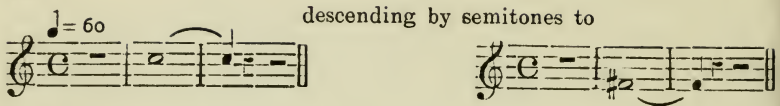
The same principle applies to all the exercises except those indicated for special purposes.

ELEMENTARY VOCAL EXERCISES.

No. 1.



No. 2.



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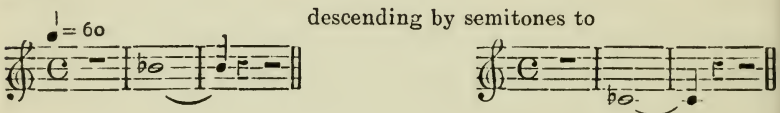

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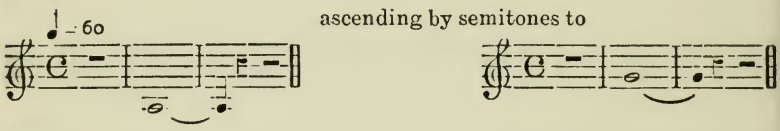

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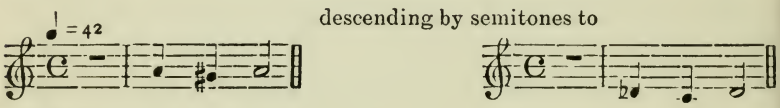

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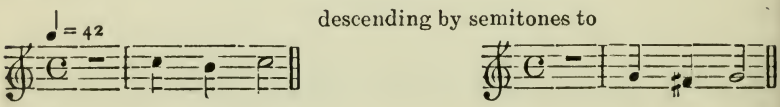

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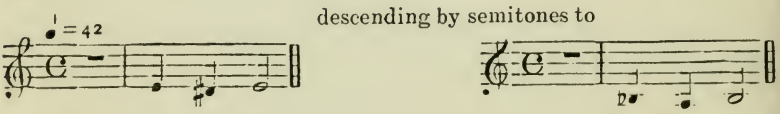

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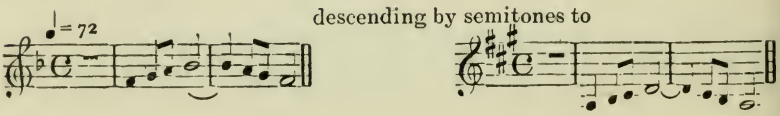

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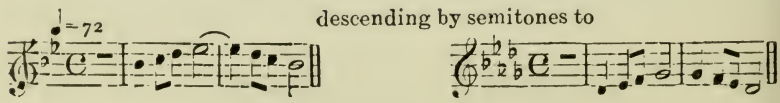

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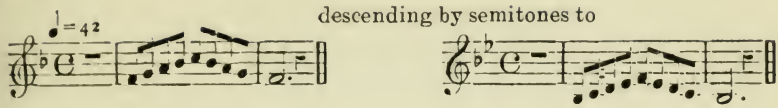

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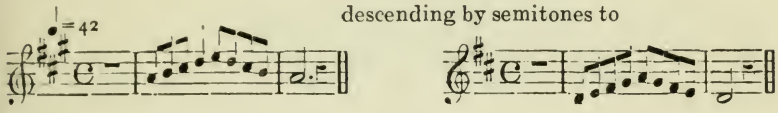

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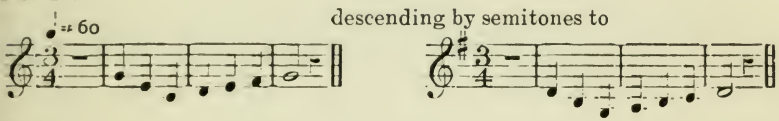

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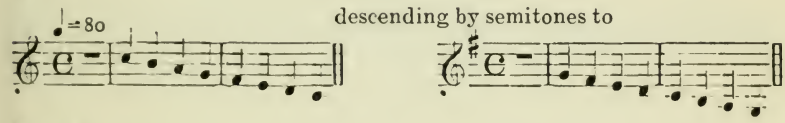

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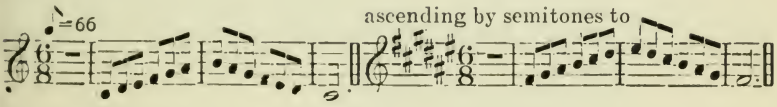

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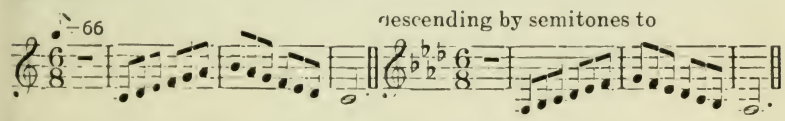

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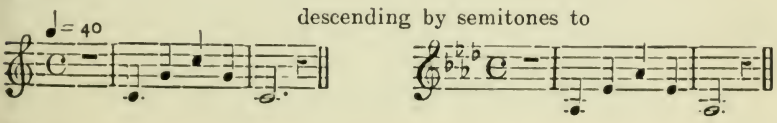

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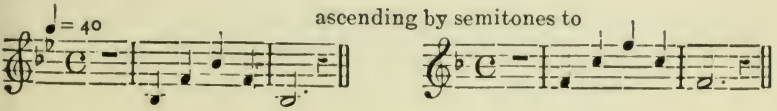

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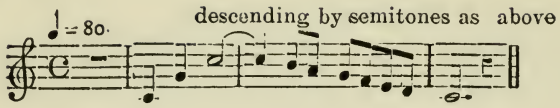

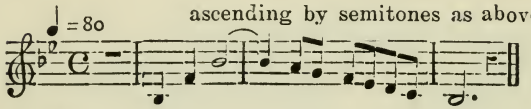

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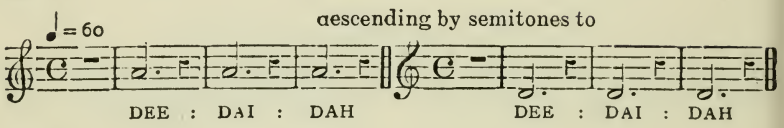

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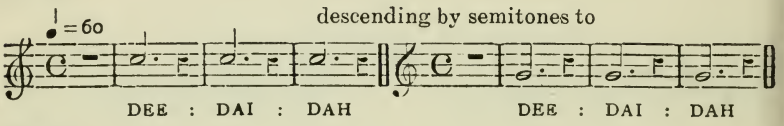

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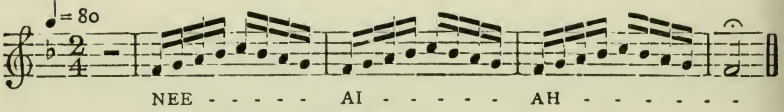

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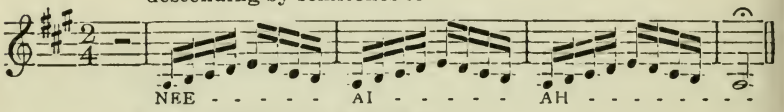
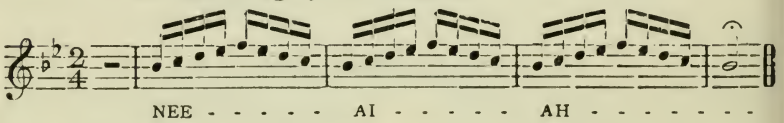
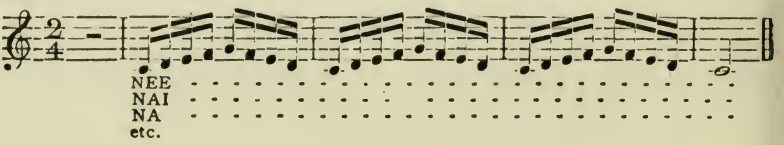


and ascending by semitones to



This exercise should be sung to all the other vowel sounds, thus:



The use of the above exercise and many of those which follow, is to carry the voice into the lower part of the upper register. Certain modifications of vowel sound pronunciation are required for certain of the vowel sounds when sung to these upper register notes.

The "*ee*" (as in meet) vowel sound remains "*ee*" throughout.

The "*ai*" (as in maid) should assume a sensation of the "*ee*" (as in meet) tone quality as the upper notes of the upper middle register and the lower notes of the upper register are reached.

The "*oo*" (as in wooed) should not be carried meantime beyond the upper limits of the middle register.

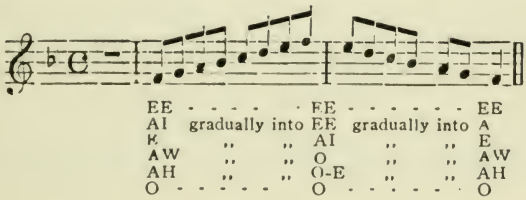
The "*o*" (as in grow) remains "*o*" throughout all registers.

The "*e*" (as in bed) should assume a sensation of the "*ai*" (as in maid) quality in the upper notes.

The "*aw*" (as in bawl) should assume a sensation of the "*o*" (as in grow) quality in the upper notes.

The "*ah*" (as in father) should assume a sensation of the "*o*" (as in grow), and some of the "*e*" (as in bed) resonance on the top notes.

No. 22.



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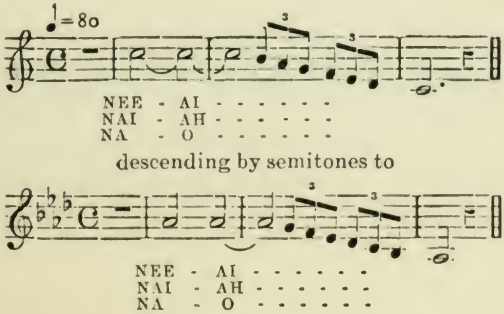

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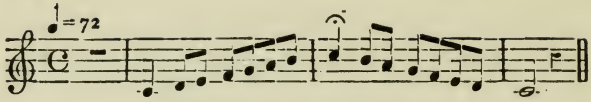

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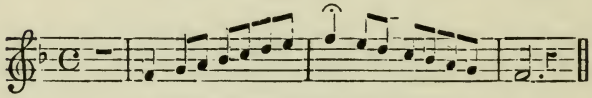

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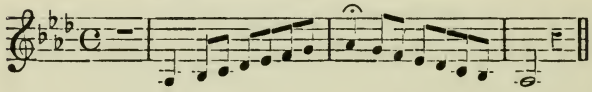

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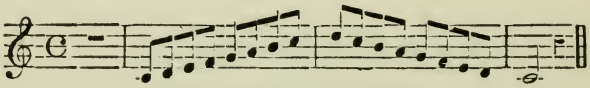

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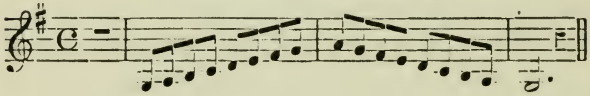

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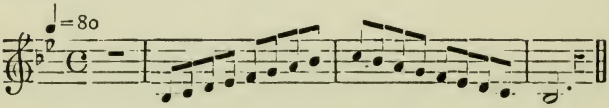

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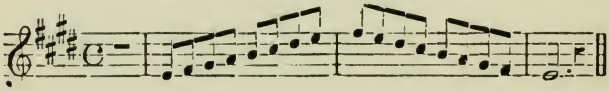

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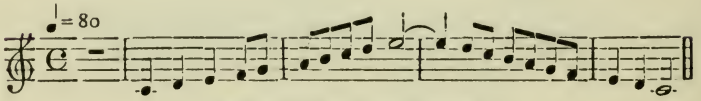

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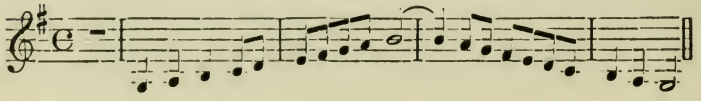

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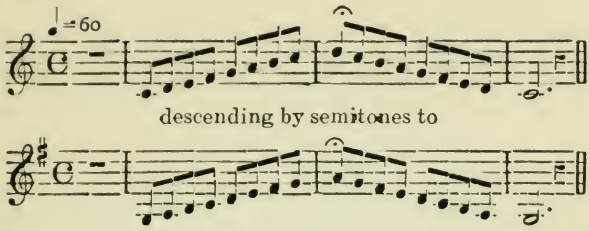

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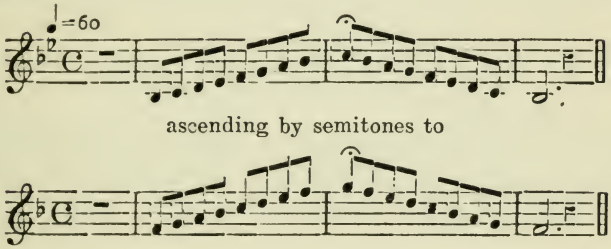

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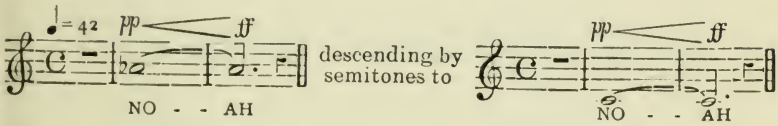
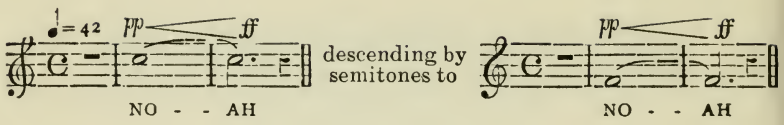


Start very softly with "*no*." Gradually *crescendo*, and in doing so open the mouth to the "*ah*" position, retaining as much as possible of the "*o*" influence in the quality by continuing to think of "*o*."

In this exercise a point will be reached in the *crescendo* where the breath pressure and the vocal tone stimulate the sensation of being equally balanced, and it is to that point in the *crescendo* that the voice should be pressed and held. The vocal tone is then being supported by the exact amount of breath pressure for the correct production of the note at the pitch and strength required.

No. 31.



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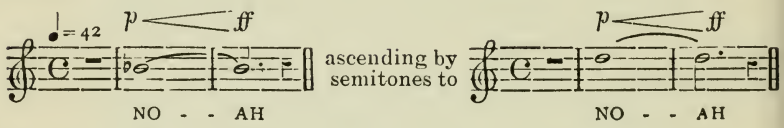

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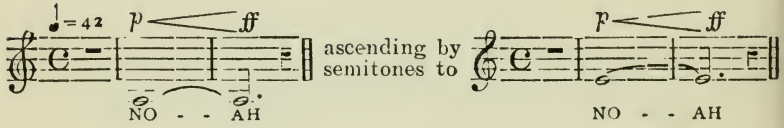

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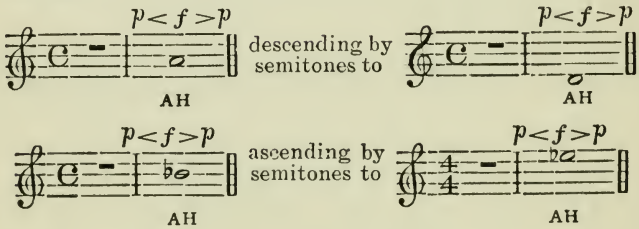
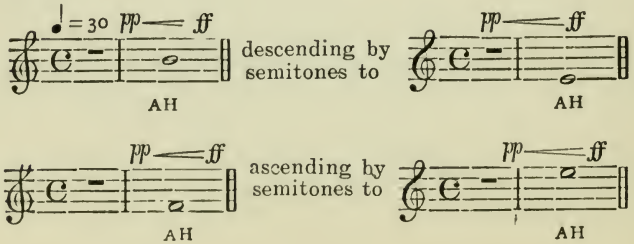


No. 34 should also be sung to "*o*," "*ai*," "*ee*," "*aw*" and "*i*."

No. 35.



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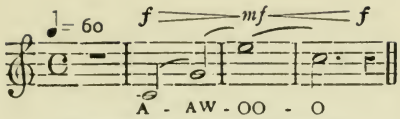

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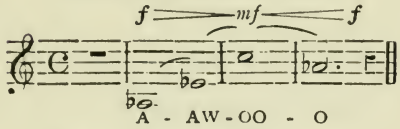

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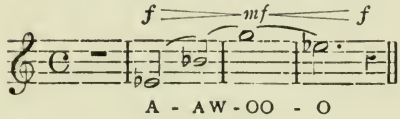


Chapter VII.

THE SELECTION AND STUDY OF SONGS.

When Song Study may be Undertaken.

THEORETICALLY song-singing should not be attempted before the student has

(a) Acquired full control over his breathing,

(b) Mastered correct voice-production, tone-placing and the formation of all the vowel sounds,

(c) Progressed with the blending of the vocal registers and the equalisation of the voice, and

(d) Has command of a reasonably good vocal technique.

From a practical point of view, however, the protracted study of the scales, exercises and solfeggi necessary for the acquisition of such vocal efficiency would probably so damp the student's initial enthusiasm that the stage of vocal development theoretically required before song-singing is attempted would never be reached.

The average student takes up the study of singing so as to enable him to sing songs at the earliest possible opportunity. This ambition should be encouraged within reason, but elementary songs should not be attempted until elementary vocal technique has been acquired. The succeeding songs chosen should be of increasing difficulty according to the advancement of the student's vocal capabilities. After the elementary foun-

dation of correct voice-production and management has been formed, song-singing and vocal development should be advanced together; but nothing should be allowed to stand in the way of the developing of as perfect a vocal technique as possible. If the inclusion of the study of songs shows any tendency to retard other vocal progress, it is advisable—in fact, essential—that song-singing be temporarily suspended.

Study of a Song by the Experienced Singer.

The study of a new song is a comparatively simple matter to the experienced vocalist. He knows what to look for in his song and how to make the best of what he finds. He is only half conscious of the fact that the analysis to which he subjects it is the outcome of experience. By the continued use of the same system of song analysis and study, the experienced singer has acquired a habit of song study by which he can learn a new song with comparative ease and rapidity.

Study of a Song by the Beginner.

To the beginner, the study of a new song, especially his first one, presents many difficulties and many unanticipated problems. These arise principally on account of the want of knowledge of a method of study which would assist him in the isolation of the salient features of the song, so that they could be given adequate consideration.

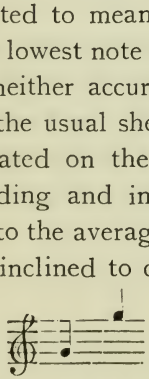
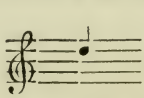
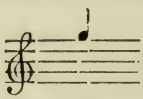
Selection of Suitable Songs.

The young student naturally looks forward to the day when he will have made sufficient vocal progress to enable him safely to include song-singing in his studies. The first step in this direction is the selection of a suitable song, and it is most important that one be chosen which suits the voice and the stage of study. Other circumstances may be allowed to influence the choice in a lesser degree, as, for example, the hearing of a good

song well sung may inspire the young singer with a desire to include it in his repertoire, or interested parents and friends may convince him that certain songs would just suit his voice. But, strictly speaking, the determining of the first song to be studied should be influenced by one consideration only, the progressive requirements of the student.

The analysis to which the new song should be subjected, be it simple or difficult, good or indifferent, must be conducted systematically. The first song should bring into practice as many as possible of those branches of vocal technique which the student has already mastered. It should be within the vocal compass, and most of the notes should occur within the limits of the middle registers. At no time should the singing of a song place too much strain upon the notes of the upper registers.

Vocal Suitability of Songs.

The phrase "within the vocal compass" is commonly accepted to mean that the singer can sing from the highest to the lowest note of the song. This commonly accepted meaning is neither accurate nor comprehensive. Most songs published in the usual sheet form, have the limits of their compasses indicated on the title. Such compass indication is both misleading and inadequate. It supplies no information or clue as to the average pitch of the notes. The mezzo-soprano would be inclined to conclude that a song with a compass indication of  would be within her vocal compass, but such might not be the case. The actual compass of the song might be as stated, but at the same time have most of its melody confined to notes between  and  , which of course would render it unsuitable for the mezzo-soprano voice

Before a song can be considered within the vocal compass and suitable for singing by any particular classification of voice, it should have the majority of its notes situated within the compass of the middle registers of the voice. Occasional high notes and occasional low notes are vocally beneficial, but the continual singing of either is a dangerous practice, especially for the beginner.

The Use of the Pitch Graph.

The most accurate manner by which the suitability of any song may be determined, both as regards compass and pitch position of its notes, is through the medium of that which may be called a pitch graph.

A pitch graph is drawn up as follows:

Use ordinary small graph paper. To the central note of the voice is allocated the horizontal line which passes through the centre of the vertical axis of the graph. To each note above this central note is allocated one horizontal line above the central line, each note below the central note receiving one line below.

For example, if the central note of the voice falls on the allocation of the lines on the horizontal axis (omitting sharps and flats for simplicity) would be as Fig. 16. If sharps and flats were included, the upwards order of the allocated lines would be A, B flat, B, C, C sharp, etc., and downwards would be A flat, G, G flat, F, E, E flat, etc.

Each square on the horizontal axis of the graph is used each time a note shown on the vertical axis appears in the melody. Each note in the melody is allocated one square of the graph and where a note is sustained for more than one beat, it is allocated one square for each beat so sustained. For exam-

ple, if the central note occurred twenty-three times in the melody, it would be allocated twenty-three squares to the right of the vertical axis of the graph opposite A (Fig. 17). If the melody also had occurring fifteen times, twelve times, and ten times, the squares of both axes, vertical and horizontal, would be allocated and then filled, as in Fig. 18.

The application of the pitch graph to a song would be as follows:

Song selected: "Verborgenheit," by Hugo Wolf, published in the "Edition Peters." Key, D flat. Compass indication would be as follows: .

The notes, or beats where a note is sustained for more than one beat, are distributed throughout the melody as follows:

1, 3, 5, 19, 6,

2, 17, 4, 35, 4,

7, 10, 4, 9, 9,

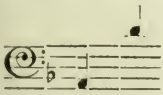
2,

The pitch graph of the song would appear as shown in Fig. 19.

POINTS DISPLAYED BY PITCH GRAPH.

By the pitch graph (Fig. 19) it can be seen that the song is a suitable one for the mezzo-soprano voice, both as regards pitch and position of the notes. It would be of greatest utility in

the development of the middle registers, none of the notes being above and few below their limits. The graph also indicates that although the pitch of the majority of the notes lies in the vicinity of the central note of the voice, a considerable portion of the song is confined to the higher notes of the upper middle register, a fact which suggest that its study should not be attempted until the training of the middle registers of the mezzo-soprano has been considerably advanced.

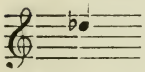
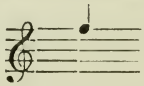
In so far as the baritone is concerned, the pitch graph shows that the song is a heavy one in the key of D flat, a considerable portion of it being confined to the upper notes of the upper-middle register and to most of the notes of the upper register. Only advanced students could use it in this key with profit, and in any case not until the training in the notes of the upper register is nearing completion. In a lower key, however, say, in the key of B flat, making the compass of the song  , it would be of as great benefit to the training of a baritone voice as it is in the other key (D flat) to the mezzo-soprano. All the notes would be confined to the lower and middle registers of the baritone voice in the key of B flat.

The Melodic Curve of the Song.

The melodic curve of the song is another factor of importance in determining its suitability. The position of the notes in the written music may display the melodic curve to the experienced eye, but considerable practice is required before the pitch suitability and the melodic curve of a song can be recognised with any certainty by merely scanning the music. Consequently, the advantages of having a graph which shows the melodic curve of the song, in addition to one which displays its pitch suitability are considerable. While the latter displays the number of times any particular note is repeated in the song,

the former shows the intervals between these notes, the amount of changing from one register to another, the actual intervals to be sung, the proximity of notes difficult to sing, the number of high notes, and how near each lies to the other, and so on.

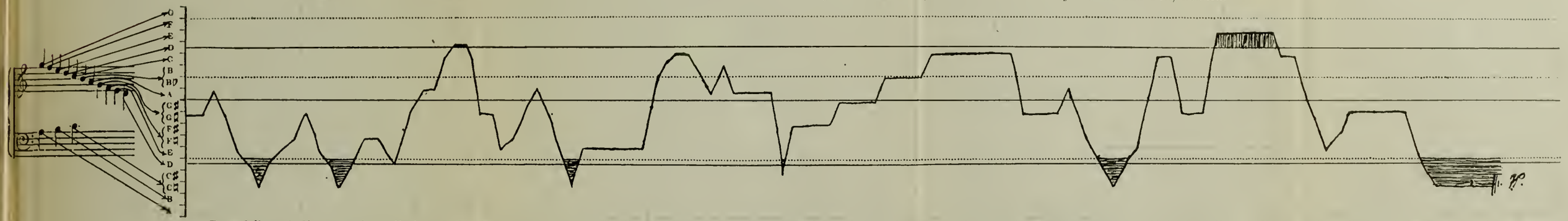
Graph of the Melodic Curve and its Uses.

In using the pitch graph alone, we may find that the note  occurs nineteen times in a song, but there is no indication how near one D flat is to the next D flat. The graph of the melodic curve, however, displays this, and the singer, who can sing D flats well if they do not occur too often and too near each other, is shown whether the song comes within his vocal limitations. If there are nineteen  in the song the graph of the melodic curve would show how near each F is to the next one, and the intervals by which each is approached. The graph of the melodic curve supplies the same key to the situation of the lower notes and the intervals by which they descend. The singer who experiences difficulty in carrying the voice from the upper-middle register to the chest register is shown whether he will be required to do this in the song and how often. On the other hand, he may have difficulty in singing intervals which carry the voice from the chest to the upper register, and here again the melodic curve graph will show how often this will be expected of him, and so on.

The two graphs together—the pitch graph and the melodic curve graph—are the most reliable means of determining the pitch suitability of any song. Other factors, of course, enter into the question of a song's suitability, that of the *tempo* at which the song has to be sung being as important to the singer as that of pitch suitability.

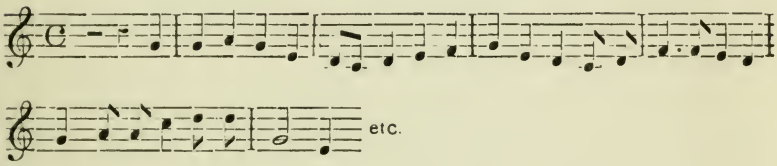
Fig. 22.

MELODIC CURVE GRAPH OF "THE CLOTHS OF HEAVEN," IN C. Poem by Yeats, Music by Dunhill. Published by Stainer and Bell, London.



... Dotted lines indicate register limits of the Mezzo-soprano. ≡ Shading indicates when the melody descends into the chest-register of the Mezzo-soprano. -- Unbroken lines indicate register limits of the Baritone, but one octave higher ||| Shading indicates when the melody ascends into the upper register of the Baritone.

The melodic curve graph is drawn up as follows. Use ordinary small graph paper, and prepare it as for the pitch graph. To each note in the music, or to each beat where the note is sustained for more than one beat, is allocated one square to the right of the vertical axis of the graph opposite its appropriate pitch. To the first note is allocated the first square to the right of the line, to the second note the second square, and so on. When all the notes of the melody have been allocated their appropriate squares, the squares are joined up as below. For example, if the first few bars of any song are taken, e.g., "The Cloths of Heaven," by Dunhill, in C:



and the notes allocated to their appropriate squares, i.e., the first two G's to the first two squares to the right of the vertical axis, A to the third square, and the remaining notes to their respective squares, the melodic curve graph of these few bars would appear as in Fig. 20.

Working on the same system, the complete melodic curve graph of "The Cloths of Heaven," by Thomas F. Dunhill, in the key of C, would appear as shown in Fig. 21.

Each of these graphs emphasises that although the compass of the song as indicated on the title-page of the music may suggest that the song is within the compass of a particular voice, little, if any, indication is given as to one of the most important things of all, namely, its vocal suitability.

The Selection of the First Songs.

At the beginning of vocal study certain songs are selected for certain purposes, and although many considerations may enter into and influence the choice, vocal suitability is the most important.

Slow legato songs are usually found to be the most suitable type for first songs. They encourage the development of good breath control, steady phrasing, and the maintenance of a steady vocal tone. Not only must the first song be within the student's vocal ability, but also within his musical and literary limitations. Both the musical and literary style should be easily understood and readily appreciated by him. With few recognised exceptions, men should not sing songs expressly written for women, and vice versa.

In the absence of a system of song study, the student usually approaches his new song in a haphazard manner, with as haphazard results. He probably considers that the song is finished and known when he has rendered himself capable of singing the tune to the words given, any system of song study and analysis appearing at first to be superfluous.

Artistic Singing of Song.

There is much more required for the artistic singing of a song than a knowledge of the words and music. Together they merely form the foundation upon which the song ideas are built and the medium through which the ideas of the composer and author may be reconstructed *in the mind of the singer.* The artistic singing of the song implies the truthful interpretation of these ideas and their transmission to the mind of the listener.

Personal Aptitudes.

Each person is endowed with certain aptitudes, the existence of which influences, in no small measure, the individual's desire to do certain things in preference to others. The presence of a desire to improve vocally and to learn to sing correctly suggests the presence of certain aptitudes in the direction of singing. Naturally the mental absorption of any system of song study will be more readily accomplished by a lover of the art than by one who is not.

On attempting an entirely new form of mental or physical activity it is not uncommon to discover in oneself a previously unknown but nevertheless apparent ability to accomplish the new task easily and well. Whether the individual is endowed with any particular aptitude in song analysing and learning or not, is not of so much importance as the fact that the mere desire to sing a song correctly suggests that there must be some natural artistic tendency which, with education and systematic training, may be developed into a marked ability. This is most speedily accomplished through the methodical study and analysis of songs of progressive difficulty.

The Knowing of Songs.

It becomes imperative for the singer to know all his songs in each and every respect, and the most reliable method of acquiring such knowledge is to submit them to a system of analysis which is logical and methodical, whether they be chosen for the advancement of some particular branch of vocal study or merely for amusement. If every new song is analysed and studied by the same system, and if that system is always applied in exactly the same manner, *a habit of song study may be acquired rapidly.*

What is Required in a System of Song Study.

It is essential that the system of song study and analysis evolved be one which brings into their true perspective and relation all the salient features of the words and music. It must ensure the logical reconstruction of the ideas which inspired the words and the manner of their treatment by the composer, both as regards melody and musical construction. It must provide the singer with the means of developing his artistic endowments, and at the same time allow for freedom of individuality. It must be suitable for application to all manner of vocal works.

The Words and Music.

A song is a combination of words and music, the singing and interpretation of which cannot be successfully accomplished until these two forces are working together in concord. As a clear understanding of this combination is not possible from a confused idea of its constituent parts, it is necessary to obtain in the first place a complete and accurate knowledge of each separately.

Analysis of the Words.

The first stage in the study of a song is composed of analysing the text and understanding its meaning. The words should be memorised by intelligent, thoughtful repetition. Their meaning should be thought of during the whole process of memorising, for only then can the ideas portrayed by the text be mentally absorbed. Parrot-like repetition is futile and meaningless. The meaning of the words should be brought out by the manner in which they are repeated, for the meaning of the text is the only guide to the singer in his reconstruction of the author's ideas and in the fathoming of the mood

of the song. The meaning and the mood together become the ruling influence in the singer's transmission of the reconstructed ideas of composer and author to his hearers.

The Mood of the Song.

There is no human mood which cannot be expressed by song. Through experience the singer will be able to create in himself the particular mood contained in any song. He may feel, at first, anything but cheerful as he approaches a joyous song, or sorrowful as he approaches a sad one, but his moods must be brought under the control of his will and made to come and go as required. It would be disastrous to the reconstruction of the meaning of the text if he approached a joyous song in a sorrowful frame of mind, or a sorrowful one joyously.

The Vocal Quality of each Syllable in the Text.

When the words have been memorised and their mood determined and mentally absorbed, the actual vocal sound of each syllable in the text should be considered with a view to giving each the best possible tone quality. By repeating each word aloud and by listening to the tone-quality results, the possibilities of tonal improvement will become apparent to the trained ear. These improvements should be given effect to until each syllable receives the best possible vocal tone and placing.

During the repeating of the words opportunities for breathing will present themselves at certain points, and should be mentally noted for use if possible when the final stages of the study of the song are reached. Certain other points may manifest themselves, e.g., duration and location of pauses, phrasing, dramatic effects, etc., and they also should be noted.

Object of Studying the Text.

The objects of the careful study of the words, syllable by syllable, are, firstly, to ensure clear diction and perfect enunciation, and, secondly, so to commit the words in their perfected form to memory, that they, after sufficient repetition and practice, may be reproduced subconsciously, thus freeing the immediate thoughts to concentrate upon the interpretation of their meaning.

Consideration of the Music.

After the words have been considered, the music should be submitted to a similar treatment. The melody with its rhythm and phrasing should be memorised. It is a common practice, although one which should be discouraged, to run the song over on the piano to see what the tune is like before either the words or music receive any separate treatment. Usually this running over of the song is continued until the student memorises both words and music.

Inaccuracies.

If the words and melody are not studied separately, small inaccuracies, unobserved at the time, are likely to creep into both. The more often the song is sung in this inaccurate form the more persistent will these inaccuracies become. When their presence is ultimately realised, great difficulty will be experienced in accomplishing their rectification. It is far more difficult to put wrong right than to exercise the necessary care at the beginning to obtain the correct mental recording and memorisation of every detail. Songs already known slightly are the most difficult to memorise in their correct form, because they usually bristle with faults of imitation.

STUDY OF THE MELODY.

The second step in the analysis and study of the song—i.e., the consideration of the music—is as important as the first, and must be carried out with equal care. The melody should be sung over to one of the broader vowel sounds—for example, "*o*," as in grow—slowly at first to make certain of accuracy. Any passages which present more than usual difficulty should be sufficiently repeated to make their reproduction easy. When the melody has been thus treated, it should be sung at the correct *tempo* and practised until it becomes memorised in its perfect form. The student should adhere to the instructions given in the music as to *tempo*, phrasing, *crescendo*, etc., until he becomes experienced enough to use his own discretion.

ABSORPTION OF RHYTHM.

The absorbing of the rhythm of the song should proceed with the memorising of the melody. Certain musical effects will suggest themselves during the learning of the melody and the absorbing of its characteristics, and they should be mentally noted for possible inclusion when the song is sung as a whole. Breathing points will evidence themselves as well as pauses, *crescendos* and other effects.

APPLICATION OF WORDS TO MUSIC AND MUSIC TO WORDS.

The third stage in the analysis and study of a song is the application the one to the other of the text and music. On going over the words the student probably decided to give certain of them special emphasis, to give a certain sentence particular dramatic force, to include so many words in one phrase, to take breath at certain appropriate points, etc., and would make similar decisions on going over the music. When the words and music are brought together, it will be found impossible, without disturbing either the flow of the music or the

sense of the text, or both, to give effect to all the points decided upon when they were separately considered.

Adjustment of Points.

A mutual adjustment of points is therefore necessary, with as little sacrifice as possible of the salient features of either words or music. In this adjustment the student should always bear in mind that, although the music is often claimed to be of the greater importance, the audience *must hear the words* if they are to form an intelligent idea of the meaning of the song.

Importance of Clear Diction.

Certainly, in the long run, the music becomes the more important, for there can be no singing in the true sense without melody, but at this stage of vocal training, no effort should be spared in the establishing of a habit of clear diction and correct pronunciation, and the only means by which this can be accomplished is to give the words adequate attention.

The music of most songs is written in support of the text, the latter inspiring the creation of the former. All song ideas are formed, and the manner of their interpretation determined, by the singer's understanding of the meaning of the words. Unless his audience can easily follow the meaning of the words, the message of the song loses much of its force, and almost all effort directed to the artistic interpretation of the meaning of the text becomes futile. But the singer must be warned against taking undue liberty with the music. He is the singer, and as such must remain true to the music and its particular message. There is the *letter* of the music first, and then the *spirit.*

The Analysis of each Vowel Sound.

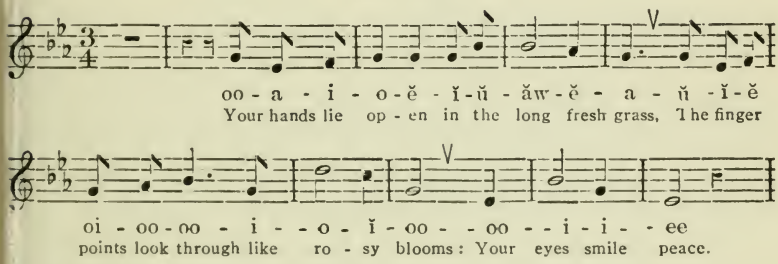
Continuing the study of his song, when the student has ascertained how the words fit into the melody, and before

attempt is made to memorise the words and music together, the formation and placing of each vowel sound in the text should receive separate consideration. The melody of the song should be sung over to the vowel sounds of the words, omitting all the consonants. In so doing, the attention must be concentrated upon acquiring for each and every vowel sound the greatest possible beauty of tone quality and accuracy of placing.

In the following example the process of isolating the vowel sounds in the words is illustrated.

Example: first few bars of "Silent Noon," by Vaughan Williams, in the key of E flat:

Fig. 22.



The melody should be sung slowly, with absolute continuity of vowel line, one vowel sound developing into the next without alteration of voice placing or strength of tone. In the above illustration the "*a*" vowel sound of "hands" develops from the "*oo*" vowel sound of "your." The vowel sound of "*lie*" develops from the "*a*" of "hands," and so on without any loss of tone quality. As the formation of a continuous vowel line is achieved, the melody should be sung to the correct *tempo*, i.e., about ♩ = 60.

After the tone quality and placing of the vowel sounds have been perfected and a straight and continuous vowel line established, the consonants should be added with as little disturbance of that vowel line as possible. They should be merely

fringed upon the edges of the vowel sounds, and no attempt should be made to "sing" them. The melody should again be sung slowly to ensure accuracy. When the consonants can be sung with correct emphasis and without unduly disturbing the vowel line, the *tempo* should be increased as before.

Memorising Words and Music.

The words and music are then memorised together, and all the artistic variations brought to light by the analysis of the words and music of the song, made to contribute their part towards the formation of a complete artistic achievement.

The Finishing of the Song.

The last stage in song study and analysis is the finishing of the song. In the musical finishing of the song such points must be determined as musical phrasing, breathing places, duration of pauses, tone colouring, etc., and the possibilities of interpretation in each phrase recognised and developed.

In the literary finishing of the song such points are determined as influence of punctuation marks, literary phrasing, emphasis of important words, keeping intact of closely associated words and phrases, etc.

These many considerations render the blending of the words with the music a process of considerable difficulty, which is not made any the less by the singer's endeavour to remain true to both.

When the song has been completely and correctly studied, the words and melody, with its rhythm and accompaniment, should flow along smoothly and in concord together. The vowel sounds will receive the best tone quality possible, and there will be a minimum of sacrifice of the salient features of either words or music, the compromise arrived at bringing out the very best in both.

THE FIVE STAGES IN SONG STUDY.

The system of song analysis and study to which the student should submit each song is composed of the following five stages:

(1) The consideration and memorisation of the text.

(2) The considersation and memorisation of the music with all its characteristics and contributory forces.

(3) The consideration of the vowel sounds of the words and the establishment of a continuous uninterrupted vowel line.

(4) The combining and blending together of the words and music, bringing out the best in both, followed by the memorisation of this combination.

(5) The musical finishing of the song, followed by the literary finishing.

The correct interpretation of any vocal work is impossible unless it has been suitably analysed, studied, and so memorised that its reproduction can be accomplished subconsciously, thus freeing the mind of the singer to concentrate upon the artistic considerations of its rendering. In song singing the vocalist should strive at all times for beauty in quality of tone, beauty in execution, and beauty in expression. He should use every means at his disposal to enhance the artistic value of his songs, and at no time should he allow any of its beauty to be sacrificed, even in the smallest degree, with the idea of displaying his voice.

Chapter VIII.

PRACTICE.

Practise with Understanding.

It is of little value to real vocal progress to practise because one has been told to do so. The vocal student should know why he must practise and to what extent his practice should benefit his voice. He should understand what should take place, mentally and physically, and what vocal improvement should result. It is futile to stand in a certain manner, open the mouth in a certain way, and breathe by a certain method without having logical reasons for so doing. Explanations are available for every step taken in vocal training, and *there is no mystery about it.* By having the mind suitably prepared by a theoretical knowledge of the subject, the student will know what physical activities to expect, how the absence or inaccurate functioning of any one of them can be easily detected, and how the tone quality will be affected.

Vocal Sound the Result of Certain Muscular Activities.

All vocal sounds are the result of certain muscular movements, their character and quality depending upon the efficiency of the organ employed and the manner in which its movements are controlled by the brain.

Body Movements Classified and Considered.

Body movements may be classified for our purposes into two main divisions, (1) involuntary, and (2) voluntary.

Involuntary Movements.

(1) Involuntary movements are composed of those muscular activities which commence and continue without any perceptible mental effort. They are present at birth, and constitute the reflex activities of the body, examples of which are found in the functioning of the heart and lungs and other internal organs. Their activities continue whether their owner wills them to do so or not. Could their history be traced far enough back, they might be found to have originated in some form of mentally controlled voluntary action which, by generations of continual use, has become absorbed into the normal make-up of the human nervous system. Ordinarily these reflex activities do not evidence their presence until nature deems it beneficial for them to do so, as, for example, in the case of health disorders, fright, danger, and many other influences detrimental to the well-being of the individual.

Certain of these reflexes exercise a direct influence over the condition of the vocal apparatus, the normal functioning of which depends so largely upon the general health condition of the body.

Voluntary Movements.

(2) Voluntary movements are

(a) Those movements which, when once started off, continue without further mental supervision.

(b) Those which, by sufficiently frequent repetition, have become so customary that their control has been transferred from the conscious to the subconscious mind, and

(c) Those movements which are either quite new to the individual, or have been performed so seldom that the action of the muscles responsible requires undivided attention and supervision.

Inter-Relations of Organs of Body.

The organs of the body form a commonwealth in which each is dependent to some extent at least upon every other. Disturbances in one, lead to disorders in another, which, in turn, react upon a third, and the third upon a fourth, and so on. In the absence of some corrective treatment, these circulating disturbances eventually further interfere with the functioning of the organ of their origin. When other organs are allowed to fall into ill-health, the organs of voice are among the first to feel the reactionary results, and are usually the last to throw off the after effects.

Physical Fitness.

As the individual must be physically fit to derive the greatest benefit from vocal study, the first essential for profitable practice is the maintenance of a state of good bodily health. This does not mean the acquisition of unusual muscular strength, but rather a toning up of the body so that the internal organs function efficiently, that good health is maintained, and that a feeling of vitality and energy permeates the whole being, producing that good form feeling which stimulates in the singer the desire to sing. Naturally this is the most desirable time for practice. Needless to say, practice without the desire is seldom so profitable.

Voluntary Movements Considered.

Voluntary movements (2), (a) above, are those which, although not present at birth, are easy to perform on account of inherited ability. The normal mind has certain inherited tendencies and is predisposed to acquire easily and rapidly the ability to do certain things. Quite soon such activities pass into semi-reflex movements, but they never become purely involuntary. At any time they may require to be guided from necessity by a temporary conscious mental control. Walking is a semi-reflex activity of this nature, the action of the muscles responsible and the directing of the steps by the eye, both being maintained subconsciously. If, however, the steps have to be specially directed, as, for example, in the negotiation of some obstacle, the control of walking immediately becomes a voluntary one and continues as such for as long as is necessary. In speaking, the action of the vocal apparatus remains under semi-reflex control until conscious mental direction is required for some new or unusual vocal effort, such as the alteration of the pronunciation of some word, the more correct placing of the voice, or the formation of some new word.

Activities of Vocal Apparatus.

Almost all the activities of the vocal apparatus require to be brought under conscious mental control from the beginning of training so that they might be perfected and produce perfect vocal tone, the primary object of vocal training and practice being to pass the action and control of the vocal apparatus into the semi-reflex category of physical movements in as perfect a form as possible.

Analysis of each Activity.

Before practice is commenced, the activities of all the parts involved in the formation of voice require to be analysed and

each part isolated so that by the perfecting of its action, the contribution which it makes to the complete act of singing may be perfect. When the action of each part has been made accurate, it should be practised sufficiently to enable the brain to absorb the activity in its perfect form.

Isolation and Analysis of the Main Activities of the Vocal Apparatus.

For practical purposes the activities of the vocal apparatus are divided into (a) the action of the larynx, (b) the action of the breathing apparatus, (c) the action of the tongue and lips, and (d) the action of the resonance cavities. Each of these divisions should be developed and perfected separately so that when any one part is called upon to contribute its share to the complete act of voice production—when a perfect co-ordination of all sub-activities has been established—the result should be a perfectly produced vocal tone.

But this ideal state is difficult to attain. The process of developing and perfecting the activities of each separate division and the establishment of a complete co-ordination between them, are tasks taking time and much hard work.

Intrinsic Action of Larynx.

The intrinsic action of the larynx always remains under semi-reflex control and is the only part of the vocal equipment which cannot be brought under conscious mental direction. The perfecting of its activities can only be accomplished by the practice of certain exercises designed for that purpose, the progress of this developing-perfecting process being supervised by the ear. These exercises, together with those designed to develop and perfect the activities of the other parts of the vocal apparatus, constitute the process of physical training to which all voices should be subjected. Adequate physical de-

velopment and perfection of action is as necessary for the vocalist as for the athlete. Just as the latter trains to obtain a perfect co-ordination between the mind and all the muscles required for the practice of his particular branch of athletics so should the vocalist practice to obtain a similar co-ordination in singing.

Voluntary Movements further Considered.

The other two sub-classifications of physical movements are (b) those which through sufficient repetition can be controlled with very little mental effort and (c) those which through lack of repetition and practice or through no previous attempt having been made, require constant mental supervision and attention.

These types of body movements the individual can train to any reasonable extent and in any reasonable direction.

Acquisition of Habits.

The movements of type (b) include in a general way such acquisitions as reading and writing, but although these activities continue without much mental effort the process by which they were absorbed by the brain and gradually transferred to sub-conscious control was long and laborious. For example, in the child's first attempt to write the forming of the letters takes his whole attention. Throughout the process his hand is guided by his eye and his letters are drawn slowly and to given designs. As practice progresses the formation of the letters becomes increasingly easy until eventually the nerve impulses necessary for writing do not come direct from the brain but are discharged from the lower motor centres. The actual process of word forming becomes mentally absorbed and its control becomes a semi-reflex one. The forming of the letters and the directing of the hand by the eye gradually becomes automatic,

thus eventually freeing the brain to concentrate upon the sense of the matter written.

Similarly the muscular activities involved in singing are developed and perfected by practice under the supervision of the ear. They can be developed into habits by sufficient repetition and practice. The more they are repeated in exactly the same manner the easier does future repetition become, until, eventually, their control is transferred from the conscious to the sub-conscious mind.

Control of Singing Practice.

The practice of singing is controlled by the sensory organs of hearing, feeling and seeing, the sense of hearing being naturally of primary importance.

The Influence of the Ear.

The tone of the voice must satisfy the ear in the first place and the more practised and educated the ear the higher will be the ideal of tone quality set by it. As the vocal tone approaches nearer to this ideal quality the more correct become the muscular activities which create it, resulting in a relative perfecting of the mental records of these activities. The more perfect these mental records the more perfect the reproduction.

The Influence of Physical Sensation.

The production of the voice must stimulate in the second place satisfactory physical sensations. It must feel. easy, natural and effortless. Guidance by physical sensation can become very exacting by practice and experience. At first, however, it is neither very satisfactory nor reliable because the movements executed are new to the individual, who has no past experience with which to compare the new physical sensations stimulated. For example, the student knows by what he has

been told, or has learned, the exact extent to which his mouth should be opened for the formation of the vowel sound "*a*" in the word "father." If the first time "*a*" is sung he directs his mouth movements by physical sensation only, he will probably see on inspection that, although the lower teeth feel as if they were at least one inch from the upper, they really are much closer. Or again, the singer may feel that his tongue lies flat for the formation of the same vowel sound but will see on inspection that it is anything but so. It is necessary consequently to co-operate the two senses of *seeing* and *feeling* from the beginning, although vocal training is directed principally by ear, the organs of hearing and the organs of voice being very closely associated.

Knowledge of Vocal Anatomy and Physiology not so Important as a Correctly Trained Musical Ear.

A knowledge of the anatomy and physiology of the vocal organs is the safest means of recognising the possibilities of training and development in any voice, and the correct manner in which each of its component parts should operate. Such knowledge is necessary for the teacher and valuable to the singer, but it does not inform the latter as to the correct guidance of his vocal equipment. For this he must rely upon the keenness of his aural perception.

The Psycho-Physiological Sequence of Willed Activities.

Activities which are willed and performed for some particular purpose follow a certain psycho-physiological sequence.

First. There is the reason for the movement, which in singing would be the desire followed by the decision to sing.

Second. There is the idea of the movement, which in singing would be the mental perception of what the resulting tone should be as regards pitch, strength, quality and tone colour.

Third. Through certain processes the brain selects the particular part or parts of the body for the display of the idea, which in singing would be the complete vocal equipment.

Fourth. There is the "willing" that the particular movement should be performed, followed by the discharge of the necessary motor impulse along the nerves to the muscles of the particular members selected.

Fifth. There is the guidance of the particular movement through the results of its activities, by the sense organs responsible, which in singing, would be the maintenance of a correct tone quality and vocal pitch by hearing and feeling and frequently, in addition, by seeing.

Ear Analysis of Vocal Tone.

Immediately the physical display of the voice idea takes place, its result—i.e., vocal tone—is analysed by the ear. The more highly educated the ear the more valuable will be its guidance. The more experienced the singer the more valuable will be any physical sensation guidance employed.

The Perfecting of Vocal Activities by Ear and Physical Sensations.

By critically listening, by constantly analysing all physical sensations, the recognition and immediate rectification of defects in the production of the voice rapidly become automatic. Only then the singer can sing easily, only then good vocal tone can be maintained without effort. It follows then that the second essential for beneficial vocal practice is the possession of a trained ear sensitive to all musical sounds in general and to any variation of vocal tone in particular, and, in addition, a knowledge of what the physical sensations stimulated in the singer by a correctly produced voice should be, together with the ability to apply that knowledge to the perfecting of all vocal activities.

Object of Vocal Practice.

The object of all vocal practice is, so to train the individual that everything pertaining to singing, with the exception of the control of interpretation, is through sufficiently frequent analysis and repetition, first perfected in action and then relegated to the control of the sub-conscious mind, to free the immediate thoughts for concentration upon artistic considerations.

Mental Effects of Practice.

All practice directed to the perfecting of voice production engraves impressions upon the highly sensitive brain matter. It is from these impressions that the future reproduction of the vocal tones practised is obtained.

Perfecting of Vocal Mental Impressions.

As the voice production improves with practice, the mental impressions become modified, and the future reproductions of the vocal activity should show similarly an amount of improvement in tone. As the ear guides the voice nearer to its ideal of one quality, the mental impressions are altered and advanced accordingly. Once the ideal of tone production has been reached and consolidated by practice, the perfected mental impressions become fixed ideas as to the aural and physical sensations stimulated by the voice. In the absence of other modifying influences the fixed idea becomes the controlling force in future singing. If the resulting tone is a perfect reproduction of the fixed idea, all the component parts of the vocal apparatus may be considered to be functioning in perfect co-ordination.

The sensitiveness and accuracy of the response of the vocal apparatus to the motor impulses discharged in the physical expression of vocal ideas, can be advanced to this perfect co-ordination only by adequate and correct practice.

Results of Repetition.

The more frequently a particular movement is executed, th stronger and the more responsive do the muscles involved be come to the particular motor impulse. The more frequently th motor impulse is discharged in exactly the same manner alon exactly the same nerve channels, the more inclined does it be come to employ the same members and muscles in the sam manner for the subsequent display of the same idea.

The Vocally Educated Mind.

In the conscious directing of the physical display of an idea the brain, through the sensory organs, directs and controls al endeavours to improve the results of that display. The thir essential, therefore, in the equipment of the individual, so tha the greatest benefit may accrue to the voice from vocal practic is the possession of a vocally educated mind with ability to us it. This equipment must include as a foundation, a good gen eral education, essential to progress in any direction. Thi third essential also includes, *inter alia*, a reasonable outlook o life, a knowledge of vocal science and a theoretical and practi cal knowledge of music, all of which can be acquired only b study and experience.

To know how the voice works is necessary in order that th correct course of action may be taken should a doubt arise, a it frequently does, during vocal practice.

Progress at Top Speed.

The modern vocal student demands progress at top speed but a word of warning must be given to anyone in a hurry wh studies in the domain of art. Artistic development, vocal o otherwise, is a matter of gradual growth. Speed courts inac curacy and consequently all practice must be taken slowl enough to ensure absolute accuracy. However, nothing is mor conducive to speedy progress than a preliminary understand

ng of correct breathing, voice production, vowel formation, oice placing, the acoustical principles governing the formation nd propagation of sound, the control of resonance and a gen- ral knowledge of psychology as applied to singing and vocal raining. Such theoretical knowledge enables the student to ndertake his private vocal practice with greater confidence, esulting in greater vocal profit.

ABSENCE OF KNOWLEDGE RESULTS IN ABSENCE OF SYSTEM.

In the absence of such knowledge first attempts at singing re made more or less in the dark, there being no system or ethod to follow. The mentally unprepared student who has ever trained his ear to recognise correctly produced vocal tone, lies upon a wholly inadequate instinctive voice control. Upon stening to the results of his vocal efforts, he will be confronted y a multitude of conflicting ideas as to the best course to lect for the improvement of his tone. He will be unable to termine either the manner or the extent of the necessary odification of the action of any part of his voice-producing echanism.

The realisation of the fact that his voice does require im- rovement is commendable, but if the mind has not been pro- erly trained, if the ear has not been adequately educated, the lection of the course most beneficial to the voice will always e in doubt.

To ensure absolute accuracy the ideal form of vocal practice that which is performed under skilled supervision. The only ternative to such supervision is a theoretical knowledge of ocal science and an understanding of how it should be applied vocal practice. Otherwise the scheme of vocal improvement ill swing from one idea to another, ever changing and doubt- g, becoming more panicky as the physical display of the new ocal ideas becomes decreasingly satisfactory.

Such a mental state is methodless and chaotic and there is nothing more damping to the student's initial enthusiasm than the realisation of his inability to select the course most beneficial to vocal progress.

On the other hand if the selection of the correct course is influenced by a knowledge and understanding of the truths of the subject, the student will find little difficulty in inhibiting the physical display of ideas which are antagonistic to the advancement of his voice training.

Mental Impressions and how they are formed.

Everything accomplished at the expense of new or concentrated thought leaves its impression upon the brain, and each repetition of that action deepens this impression. The deeper the impression, the more inclined is the brain to continue to direct the physical expression of the idea of the impression along the same lines. This impression supplies the stimulus giving the idea of the correct course to be pursued when the action is repeated. It is essential, therefore, that the mental impression made by the first practice be accurate. If an inaccurate impression is recorded and persisted in, its subsequent elimination becomes a long and tedious business.

During elementary vocal training, the most important part of the singing teacher's work is involved in guiding the student's selective action so that all ideas created and all courses chosen will be correct.

The greater the inclination to select a particular course and the more frequently the individual follows that inclination, the more obscure does any idea of using any other become. The conflict of opinion in the mind decreases as the choice and adoption of one particular course becomes habitual. The mental effort expended upon the selection of the correct course decreases, requiring less conscious attention the more frequently

the same course is followed. Eventually the selective action afforded to singing will pass from conscious to subconscious control and become a habit. This, like all other acquired habits, requires regular repetition to keep it in a state of efficiency.

Vocal Ideas and their Physical Display.

All the muscular movements which contribute to the production of voice are executed as the result of the brain causing those ideas which it forms and selects for vocal display to find expression in physical action. The quality and truthfulness of those ideas depend upon the individual's vocal thinking. The truthfulness of the physical display of the ideas depends upon the mental control and directing of the muscles concerned and the extent to which they have been co-ordinated by training.

The benefit to the voice derived from the correct practice of the display of any one vocal idea, depends upon the persistence with which it is repeated, the strict similarity of the repetitions, and the ability of the singer mentally to direct the improvement of its results. The student should be certain of the accuracy of the mental impressions and the ideas into which they are developed. He should direct the results of the physical expression of these ideas so that they remain perfect and true to the thought or feeling selected for display.

The process of receiving vocal impressions and mentally absorbing them, and the process of developing the vocal apparatus, from the physical point of view, so that it becomes responsive in the finest sense to all impulses discharged for the physical expression of vocal ideas formed by the mental treatment of these impressions, constitute a training of both mind and body which takes time, patience, and no little determination to

achieve. Each progressive step must be conducted with care and accuracy, so that all impressions recorded and ideas formed therefrom, may be perfect.

What Vocal Practice Consists of.

To summarise, vocal practice consists of (a) the reception and mental recording of accurate impressions as to the correct production of voice, followed by their absorption, (b) the development of these impressions into correct vocal ideas, (c) the accurate physical display of these ideas with such regularity and frequency that the actual production of voice becomes automatic. It also includes (d) the keeping fresh of these impressions and ideas by the accurate repetition of their physical display, and (e) the keeping of the vocal apparatus in the highest state of muscular efficiency by the regular and frequent performance of certain vocal exercises, so that it can be relied upon to respond instantaneously to all the demands made upon it by singing.

The Importance of Perfect Practice.

It is then patent that the quality of practice is of the utmost importance, for only when perfect impressions are received and mental records made, can perfect voice production be expected.

Inaccurate Practice.

Imperfect impressions are recorded by the brain with as great ease and accuracy as perfect ones, and, of course, when they are, nothing but their reproduction can be expected; so inaccurate vocal practice is worse than useless, because imperfect vocal impressions form into wrong vocal ideas, which will require to be substituted by perfect ones before vocal accuracy can be looked for.

Perfect Practice Makes Perfect.

The adage, "Practice makes perfect," should be read by the vocal student as "Perfect practice makes perfect."

The performance of any vocal work is the physical display of vocal ideas already formed by practice. The accuracy of the reproduction depends upon the accuracy of the mental recordings. For perfect reproduction, perfect recording is essential. It becomes apparent that perfect vocal reproduction demands perfect vocal practice. Perfect practice is impossible unless each step in vocal progress is supervised by the educated ear and given intelligent attention. This supervision must continue from the first conscious mental effort afforded the first attempt at vocal improvement, and continued until the production of the voice has been perfected and transferred from conscious to subconscious control. Accurate practice should continue until the activities of the vocal apparatus in singing are controlled as much by habit as those involved in speaking.

The Perfecting of the Mental Records.

Everything reasonable is possible. However difficult the vocal task, it will become increasingly easy as its perfect practice is continued, provided it is within the individual's vocal capabilities. Whether anything can be accomplished easily and speedily depends upon the intricacy of the movements and the mental capacity and adaptability of the individual. Absolutely new things are much more difficult to do than things already attempted. Although nothing which the student will be called upon to do during his first singing lessons will be entirely new to him, the manner in which he will be required to do it probably will. Very few vocal students have not sung in their own way before they experienced the desire to learn how to do so correctly. In their instinctively guided vocal efforts they used their voice in the manner which to them ap-

peared best and most natural, creating certain vocal imperfections, the elimination of which constitutes their first objective in practice. Clearing the vocal thinking of those involuntarily practised inaccuracies can be accomplished only by practice, and the elimination of these imperfections becomes increasingly automatic as practice proceeds, provided intelligent attention is applied throughout.

The elimination of imperfections and the substitution of perfect impressions cannot be accomplished suddenly—although the correct manner in which to do some particular thing in singing may dawn on one suddenly—but progress step by step at a speed according to the sensitiveness of the mentality and to the amount of intelligent practice performed.

Channels of Thought.

All mental impressions of vocal practice form in the brain channels of thought.

When the reproduction of any vocal work already studied and known is desired, the thoughts are directed through these channels. Impulses are discharged from the nerve centres concerned to the muscles of the vocal apparatus, and the reproduction of the selected work is accomplished. The quality and accuracy of that reproduction depend upon the accuracy and perfection of the channels of thought formed when the particular work was being learned and absorbed by practice.

Any deviation from accurate repetition during practice creates relative deviations in the thought channels. These deviations tend to interfere with the individual's line of thought during the reproduction of the work learned, and mistakes are made. When mistakes have been allowed to persist, it becomes almost impossible to rectify them. They invariably recur and

manifest their presence when least desired or expected. They recur most frequently when the mind is under the influence of abnormal conditions such as excitement or nervousness.

If vocal imperfections are allowed to invade practice, the mental impressions recorded will be mixed and confused, and the line of thought disturbed. The inhibiting of inaccurate vocal ideas during the performance of a work, may usurp most of the singer's attention, each bar—perhaps each word and note—of his song demanding conscious mental control. His interpretation is bound to suffer, and will probably be unconvincing and strained.

The Conscious and the Subconscious Mind.

The mind is divided into two sections. One section deals with all new thought, and has already been referred to as the conscious mind. The other section deals with all things learned and known, and already referred to as the subconscious mind. These two sections work together, the former passing on the results of its activities to the latter for recording and storage.

Many accomplishments, e.g., reading and writing, which only require a calling-up impulse from the conscious mind to set them into accurate functioning, have been transferred from the conscious to the subconscious mind by practice. They have been practised into habits and have become part of the make-up of the individual, although in themselves they are really complex activities.

A comparison of the laborious and intricate process of absorbing by practice one of these accomplishments with that of learning to sing correctly, would make it easy to realise that the mental and physical processes involved in the correct use of the voice can be transmuted with far greater ease and rapidity from somewhat complex tasks into automatically functioning habits.

If the subconscious mind did not possess the ability to store away knowledge acquired by the conscious mind, the brain would be capable of supervising only those activities necessary for the ordinary maintenance of life. Finer thinking and artistic progress would be denied the human being. The functioning of the subconscious mind, however, frees the conscious mind to undertake further conquests of learning and knowledge, and to acquire new and desirable habits.

The artistic progress of the singer depends upon his conscious mind being freed to afford the artistic consideration of his songs his undivided attention. Consequently the process of perfecting and mentally absorbing the mechanical production of voice must be persisted in until the control of its functioning is invested in the subconscious mind. This can be accomplished only by practice.

Practising for an Ideal Tone Quality.

During all vocal practice the development and training of the voice must be kept obedient to the laws of vocal science. By practising for an ideal vocal tone and a perfect vocal technique, the muscular movements involved in the production of the voice become gradually perfected in their action. This muscular perfecting process exercises considerable influence upon the mind. Inaccurate mental impressions and ideas are substituted by accurate ones, the brain becoming trained to accept and retain only correct vocal impressions. The voice rapidly becomes trained to give a truthful interpretation of the ideas formed by these impressions.

Perfect vocal tone is impossible without perfect muscular action. Perfect muscular action is impossible without perfect mental recording. Perfect mental recording is impossible without perfect practice. Vocal practice is like an endless chain, each link supporting or being supported by every other. Per-

fect tone is the result of perfect muscular action, perfect muscular action is the result of perfect mental recording, perfect mental recording is the result of perfect aural perception, upon which perfect tone also depends.

Regularity of Practice.

Vocal practice should be regular. Progress must be slow enough to ensure the establishment and consolidation of correct habits of singing and to give the psycho-physiological processes opportunity and time to sink in. Slow progress establishes confidence, and in the end secures more accurate and lasting results than progress at top speed.

Courage in Practice.

Timidity in the "handling" of the voice is always detrimental to progress. Courage and confidence come as a matter of course when the student becomes convinced that his voice is being developed and trained correctly.

Acquisition of Technique.

Technique is as important to the singer as to the instrumentalist. Although this is acquired by the latter by the continual and intelligent practice of exercises and studies, the student of singing seldom realises that he, too, can acquire an equally good technique by applying as systematic a training to his voice. The daily practice of vocal exercises is absolutely essential if a high standard of vocal efficiency is to be maintained. The student who succeeds is the one who does the little extra practice daily.

Application of Intelligent Thought to Practice.

The student cannot be made to learn. All that his teacher can do is to place correct suggestions before him. Some stu-

dents imagine that the practice of the scales and vocal exercises requires merely physical effort, and that if they perform the required work automatically and regularly, progress will be made without further effort. But each student should realise that continual conscious mental effort is at the same time necessary, and that every note produced must be analysed and perfected if real and lasting benefit is to be derived from practice.

Concentration.

For practice to be successful, diligence and concentration are essential. Concentration especially should be developed. The more a study appeals to a student, the more easily can he focus his mind upon it. If, however, in spite of all endeavour to concentrate, the attention persistently wanders, the brain is probably suffering from tiredness or lack of interest. Practice should then be abandoned until the brain is sufficiently rested to have regained its receptive ability; careless practice usually works more harm than good. Lagging interest is generally the result of monotony. Some students may always experience difficulty in concentrating, and frequently find their thoughts wandering to things other than singing, during their practice.

It is impossible to think clearly of two things at once when each requires attention.

In the ordinary process of selective action the brain attends to the thought uppermost, usually the one which is most immediate and to which the attention is most easily drawn. During concentration the uppermost thought monopolises the attention, and any other which may arise receives but scanty consideration.

Only one thought can be allowed to remain in the mind during practice, and that is the one which is dealing with the particular work in hand.

Fruitless practice is sometimes the result of wrong method, but is as frequently the result of an entirely wrong mental attitude towards it. Wool gathering is a most insidious form of mental degeneration. If unchecked and permitted to become habitual, it spreads rapidly over the whole mentality, engulfing all thinking, leaving the individual unable to think clearly of any one thing. Absent-mindedness is inexcusable in the singer, and the idea that one cannot be artistic without also being absent-minded is absurd. The student cannot afford this form of mental luxury, but must cultivate a clear, active and receptive mentality.

Accuracy of Practice.

Accuracy of practice must be repeatedly stressed. Inaccurate practice causes the loss of much time and many lessons. Private practice should consist of the student repeating accurately and sufficiently everything done when his voice was functioning during the lesson under the skilled supervision of his teacher. Lessons are valuable only when their benefits are made permanent by being mentally absorbed through practice. All the process applied to the voice during the singing lesson should be thought out, and any difficulties of understanding each step taken should be discussed at the time.

Benefit to Vocal Progress Derived from Meditation.

Meditation can work wonders if applied with true understanding, and many practice problems may be elucidated in this manner, e.g., the thinking out of future courses of action, the deciding upon certain modifications for the benefit of vocal tone in subsequent attempts at the improvement of its production, and so on.

It is not the amount but the quality of practice that counts, and adequate practice of the best quality is the ideal.

Necessity for Hard Work.

The modern man in the street is much better informed on things artistic than his predecessors. Consequently he is much more critical musically, and expects more from the singer. It is essential, therefore, that the student should know his business thoroughly, and that by his practice he should establish a foundation of vocal efficiency which will enable him to meet successfully all the demands and trying conditions of amateur or professional singing. Such a desirable vocal equipment can only be acquired by hard work. The outstanding characteristic of the world's greatest singers is their enormous capacity for work.

Ideal Conditions for Practice.

The voice will derive the greatest benefit from practice:

When the mind has been suitably educated and prepared,

When the method of voice training has been founded upon scientifically correct principles,

When the powers of concentration have been so developed that the whole attention can be focused upon the work in hand,

When it is realised that accuracy is the *sine qua non* of successful practice,

When the operation of the method of training is thoroughly understood,

When a natural aptitude for singing is present, and the student is keen on his work,

When the body is in the best physical condition,

When all practice is confined to the good-form feeling period,

When practice is discontinued during mental and physical tiredness,

When everything learned during the singing lesson is thought out and sufficiently practised afterwards to become mentally absorbed,

When progress is slow and sure,
When speed is allowed to come as a matter of course,
When the student applies his brains to each step in vocal progress, no matter how unimportant it appears.

Not until practice has been adequate enough to have established an advanced vocal technique, and then to have transferred the entire mechanical production of voice to the control of the subconscious mind, should the artistic consideration of song interpretation be undertaken.

Chapter IX.

PREPARATION FOR SONG INTERPRETATION.

What Artistic Interpretation is.

ARTISTIC interpretation is the highest form of the practice of the art of singing. It consists of the truthful vocal display of those thoughts and ideas which arise in the suitably trained mind, though the recognition and mental consideration of the influences inspiring the composition of the words of songs, together with those inspiring the manner of their musical treatment.

Interpretation a Faculty Possessed by All.

Ordinarily, the ability to give a truthful vocal display of one's thoughts is not some mysterious gift possessed by merely a few of the more fortunate ones. It is, rather, a common faculty, possessed by every normal individual, and displayed daily, even by the least imaginative among us, in ordinary intelligent conversation.

The variety of vocal pitch employed in conversation extends to approximately sixteen degrees of the musical scale, while the variety of tone quality used is as great as the variety of feelings and emotions which the normal human being can experience and express. In conversation the desired interpretation is given to the selected ideas by the manner in which these varieties of vocal pitch and tone quality are employed.

The Influence of the Tone of the Voice.

Some people have more expressive voices than others. By utilising every means of expression at their disposal, they keep their vocal tone interesting and attractive to hear. Just as the true meaning of words may be altered—in some instances even completely reversed—by the inflection and tone of the voice, so can the discriminate use of appropriate and well-modulated vocal tones greatly enhance their beauty, making their message convincing and their sound pleasing to the ear.

Interpretation of Ideas.

In the normal adult the physical expression of ideas is a voluntary act over which he has control, except when under the influence of such abnormal conditions as acute nervousness and deep emotion.

The thoughts and feelings to which voluntary interpretation is given, are those selected specially for that purpose in the normal processes of mental activities. They form specific ideas and are transmitted to others through the medium of voice. The ability to give a logical and intelligent vocal interpretation to the ideas formed by selected thoughts, is acquired by every normal individual during the ordinary processes of education and mental development.

Selective Action.

A great variety of thoughts arise continually in the active brain. Certain of them are selected for physical display, while others are inhibited. This selective action, as the psychological process is called, develops with the mentality and continues as long as the person can think, can form logical ideas, and can exercise control over the vocal display of the results of these mental activities.

Expression of Speech Ideas.

Ideas which the individual allows to find expression in speech, are limited to those which are considered correct, proper and permissible. The selective process to which the thoughts are submitted before being allowed to form into these ideas is circumscribed and influenced by many limitations, including education, experience and custom. The intelligent person eliminates all wrong ideas from his thoughts before he gives any vocal indication of them. He does all the selection of thoughts and formation of ideas beforehand. In other words, he thinks before he speaks.

Expression of Song Ideas.

Interpretation in speech and song should be in this respect similar. The mental processes are identical. Like the speaker the singer must think before he sings.

The mental consideration of the meaning of his song causes a variety of suggestions to arise as to the best manner of its interpretation. He selects those thoughts which his vocal education and artistic experience lead him to believe to be the most suitable, which will form the most truthful ideas of the meaning of his song, and which, when expressed, will be accepted by his audience as logical and convincing.

Singer's Advantages over the Speaker.

The singer has at least two advantages over the speaker, in that the words of his song have been thought out and supplied for him by the author, and that they have been suitably treated musically. He is not required to find his words like the speaker. They are supplied for him by an artist in the use of the language. He is not required to rely upon his own judgment for the variation of his vocal pitch. The melody of the song is supplied by an artist in the art of melody-making and

composition. The singer's responsibility lies in giving a truthful vocal display of the results of his mental consideration of those supplied integral parts of his song. Herein lies his greatest work. If he hopes to acquire the same ease and certainty in the interpretation of his song thoughts as he enjoys in that of his speech thoughts, the flow of the former must be no more interfered with by considerations of voice production than that of the latter.

Preparation of Vocal Apparatus.

Before song interpretation can be afforded the undivided attention it requires, it is essential that the singer's vocal apparatus be so trained and practised in its functioning, that it can be relied upon to produce a singing voice of the requisite variety of tone colouring, timbre and pitch, with as great ease and certainty as it does for speaking. The actual voice-production stage of vocal training must have been completed. The singer's technique, which includes everything which has to do with voice in the physical sense, must have been so completely trained and practised that its functioning has been transferred long since from conscious to subconscious control. Before interpretation becomes the subject of special consideration, the student must be able to produce the required voice without hesitation or effort.

Art in Singing.

Interpretation, not voice production, is the brain work in singing, and is the life-giving force which transforms a mere physical display of voice into an artistic achievement. Without it, singing can lay no claim to being an art.

Artistic Appreciation.

The ability to form and interpret song ideas is common to nearly all—few who possess the normal mental equipment, lack

some sense of appreciation of things beautiful. Such appreciation may manifest itself in a great variety of ways, from the laying out of a small flower-plot to the painting of a great masterpiece.

Although artistic appreciation and interpretation have a chance of greater development where education is present, the presence of such education is not necessarily followed by an unusual artistic appreciation, nor is the lack of the former by the absence of the latter.

Formation of Song Ideas.

Success in the formation and interpretation of song ideas depends upon the singer's ability to extract from his song a truthful and clear understanding of its meaning, and to recognise the relation which the words and the music bear to each other. This ability is acquired by a process of directing the education and training of the brain into certain channels. The physical and mental processes which co-operate in the formation and interpretation of ideas, must be mentally absorbed from their most elementary to their most advanced stages. Only then will the singer derive the fullest benefit from his training, and only then will he be enabled to display his artistic thoughts truthfully to others.

Imitation.

Imitation is the most elementary form of interpretation, and is the first evidence of elementary mental development in any particular direction.

The results of the mental process of learning to imitate may be observed, in their most elementary form, in the physical display of the first mental activities of the child. When the mother smiles to her infant, she quite soon receives a smile in return. It is perhaps faint and uncertain at first, but the more often the action is repeated, the more definite does the imita-

tion become. The mother's smile implants, as it were, a mental picture in the brain of her child, stimulating the formation of the first idea.

In unrestricted mental activity every idea tends to find its physical display through certain body movements. The mental picture, which is impressed on the child's mind by the mother's repeated smile, tends to find its physical expression in a similar physical activity, i.e., a smile. It is allowed to follow its normal course on account of the absence of any of the restraining influences which limit the expression of ideas formed in a more mature mentality. The child gives involuntary interpretation for the first time to a formed idea, which results in the smile. If the stimulation of the smile idea is repeated and persisted in, the imitation of it becomes increasingly easy, until quite soon the infant will smile in reply without hesitation.

The most elementary formation of ideas is stimulated and taught by this process of imitation. The undeveloped mind has a very marked tendency to imitate the activities of a mind in a more advanced stage of development. This is particularly so in the study of singing and song interpretation. The student of singing is very prone to imitate the results of the functioning of a more highly developed vocal brain than his own. He tries to imitate singers whom he considers much better than himself, those whom, on account of their apparent vocal superiority, he selects as vocal models. His voice production, style, diction, breathing, etc., all become influenced by his temporary vocal gods. His voice is more influenced by what he sees and hears than by what he has learned or is taught.

Great care must be exercised in the selection of vocal models. The purer the model and the more faithful the imitation, the more perfect will the reproduction be. If the model be of the best, then all will be well, provided the imitation is truthful. If the model be inferior, then all will be wrong.

The mental impressions recorded in the brain by imitation will always remain, whether the model be good or bad. Imperfect and undesirable models leave mental impressions as definitely as perfect ones. The wrong impressions will most certainly betray their presence on some future occasion, probably when least expected and least welcome. It is therefore most important that the first steps in song interpretation be guided by as perfect models as may be procurable. Study only the best music. Hear only the best artists. If the student copies only what is best, bad habits should never be acquired.

Blind Imitation Useless.

But all imitation should be intelligent. Absolutely blind imitation is as useless to the student as example without explanation, for both lead to a distorted idea of the particular activity to be copied. From the very beginning, the student must analyse the influence of his vocal models and arrive at conclusions which must agree with his knowledge of vocal science, as to the best means of voice improvement. During the hearing of a great artist, one particular part of the performance should be isolated and analysed (e.g., one artist's breathing, another's voice production, and so on), until the student obtains a correct idea as to the manner in which his immediate vocal model performs that particular part. Imitation is the beginning of self-expression, but it must be intelligent imitation if it is to be ultimately beneficial to vocal training.

Development of Originality.

But there comes a time, sooner or later, when unquestioning imitation is superseded by an ever-increasing desire for personal initiative. The student experiences strong impulses to experiment with his own song ideas, and there arises a demand to know the why and wherefore of the scheme of interpretation used.

When this influence of a developing vocal mind upon elementary interpretation has made some progress, the student's interpretation of song ideas, although still influenced to a certain extent by imitation, displays convincing evidence of the operation of originality. He inhibits all ideas which his training leads him to believe to be inferior, retaining those which he now considers suitable for reproduction.

INHIBITIONS.

Quite early in life the individual learns by experience that certain ideas must be restrained from following their ordinary course of physical expression. They are prevented from fructifying into physical expression by certain stronger ideas, known as inhibitions. Inhibitions originate in one's experience of the uncomfortable after effects of wrong-doing, the result of the entertainment and physical expression of wrong ideas. On the other hand, the physical expression of right ideas tends to repeat itself on account of the increasing desire to re-experience the pleasure and advantage of doing right. We repeat certain actions because we like to do them, because they create in us pleasurable feelings. Thus gradually, by experience and education, the mind learns to differentiate between those ideas which, being right, should be allowed to find expression in physical action, and those which, being wrong, should not.

By the manner in which we are affected mentally and physically by the consequences of our actions, we soon learn that we may do certain things but must not do others. As the mind becomes more experienced and educated, the number of ideas which are allowed to fructify in physical activity is further circumscribed and restricted. The number of inhibitions is further increased and developed by the dictates of convention, custom, and many other limiting influences. Thus, in a more

or less normal way, self-control and self-restraint are developed, the individual becoming an ordinarily behaved member of the community.

Inhibitions, however, do not entirely eliminate from the brain the original impressions formed by imitation. They merely prevent them from finding expression in physical actions. As the vocal mind becomes more experienced, the force of originality increases, and, becoming focussed into its truer perspective, gradually reduces the influence which imitation has exerted over the formation of song ideas.

Imitation Substituted by Originality in Song Interpretation.

The student now begins to realise that to be the mere shadow of someone else is to be nothing in art. He now forms ideas according to the manner considered best by his own mind. Any interference with this new mental treatment of impressions is countered by a resistance which increases as originality develops. Song interpretation becomes more the expression of the singer's own feelings than the bare reproduction of another's ideas. The desire to express his own thoughts in his own way manifests itself. Within reason this should be encouraged, but originality of thought must always remain logical and acceptable to the average thinker.

Difficulties of being Original.

Modern social and business life does not afford originality much encouragement. Almost everything is circumscribed by the dictates of convention and custom. Business is transacted according to rule and routine, restrictions which stifle originality and tend to direct all thoughts and actions into the same orderly and regulated groove. It is so much easier to do

things as they always have been done, that any form of pioneering is at a discount, and not unusually the individual with marked originality is considered, at least, eccentric.

Traditional Interpretation.

The display of originality in song interpretation is also considerably circumscribed. Vocalists dare not disregard the traditional interpretation of certain vocal works. Certain songs must be sung in certain ways. Habits in song interpretation, entirely void of originality, are thereby formed, any deviation from the accepted conventional course being condemned by the enlightened.

The forming of song ideas according to custom and tradition is killing to originality. It tends to produce a school of singers who practise their art according to certain rules and regulations. They become oblivious to the fact that all art depends for the continuance of its progress upon the truthful and unrestricted expression of organised æsthetic thought. Tradition may circumscribe and limit the idea to which physical expression may, under certain circumstances, be allowed, but logical originality of thought should never be stifled and suppressed.

The ability and freedom to apply logical originality to his work is essential to the success of the vocal artist. There can be no "must do it this way" about song interpretation. With the exception of certain forms of vocal music in which the singer must adhere rigidly to the music as it is written, and in which originality might nullify the composer's scheme, songs should be sung as the singer feels them, not as he ought to feel them. The expression of ideas selected for artistic purposes should be influenced by the same considerations, *provided the mind has been suitably trained so that all the influence exerted by originality is intelligent and acceptable.*

Danger of the Beginner Striking Out on His Own.

Although any endeavour to stereotype interpretation in singing is courting artistic disaster, a word of warning must be given to the inexperienced. The young singer must exercise great care in striking out on his own. If his song ideas are directly antagonistic to those of more experienced singers, he must give his scheme of interpretation very careful reconsideration. Each song is the portrayal of some human emotion, and the manner of its interpretation depends upon the nature of the singer's experience—actual or imaginary—of the feelings to be portrayed. The memory retains impressions of past experiences, and by consulting it, a truthful and logical scheme of interpretation may be adopted. If the singer's experience be a short one, he will be well advised to study the manner in which more experienced artists select and interpret their song ideas. But one person may be influenced quite differently from another by the same stimulus.

Individuality of Emotions.

The manner in which we are affected by the emotions is a purely individual thing, as is the manner in which we interpret the ideas formed by them. Without individuality, there can be no truthful display of personal musical feeling, and artistic originality in song interpretation is always refreshing and invigorating.

Imagination.

Success in the application of originality to song interpretation is only possible when it co-operates with an organised and artistic imagination. No single individual can have actual experience of all the incidents portrayable in songs, but this deficiency can be made good by the functioning of a properly organised artistic imagination.

Imagination is one of the *practical* faculties. It is one of the most valuable, if it has been trained to function soundly. It is present in all normal mentalities, and is capable of considerable development, the success of which depends very largely upon the manner in which the mind is ordinarily employed.

What Imagination is.

Imagination is the ability to conjure up mental pictures of anything within the realms of possibility. It is one of the greatest forces in the progress of mankind, everything achieved and invented having been pictured in the first place, in imagination. The ideas upon which the inventor fashions his invention, or the engineer his machine are first pictured in the mind's eye. If these mental images are desirable and logical, the mind advances. If the reverse, they result in the formation of negative ideas, the physical expression of which is followed invariably by undesirable consequences.

Influence of the Habit of Thought.

The growth of the imagination is largely influenced by the personal habit of thought. If the habit of thought be a pessimistic one, the imagination will play havoc with the peace of mind of its possessor. The imagination of ills which do not come to pass, wastes the vital energy and disturbs the mental tranquillity.

The Pessimist.

The pessimist never sings well. He never feels happy enough. His vocal education and musical environment supply only a thin camouflage to his true frame of mind. Under the strain of public performance he invariably becomes obviously depressed. He imagines that everything is going wrong, that

he will not sing well, that his performance will not be appreciated. His insidious affection spreads to everyone with whom he comes into contact.

In the professional singer, pessimism affects fellow artist and audience alike. The ante-room becomes a hot bed of depression and nervousness.

Logical Imagination.

If wrong and illogical thinking can create such mental devastation, artistic and logical thinking can create infinitely greater mental progress and construction. Great achievements owe their accomplishment to the orderly and properly directed imagination of their author. Opportunities present themselves, and are immediately seized upon by the possessor of the logical imagination. Their possibilities are recognised and the mind progresses. To the unimaginative, opportunities come and go unrecognised, the individual considering himself unlucky. To one singer opportunities for the improvement of the artistic value of his singing are clearly visible; to another they are not. Through lack of development and artistic training, the imagination of one singer may even form quite illogical ideas as to the correct interpretation of his songs. He may give an absolutely truthful vocal display of his own mental pictures but, in so doing, may embarrass and distract his audience by the eccentricities of his performance. Real artistic temperament is not an illogical thing and is no excuse for any form of misbehaviour. The modern public will not tolerate the singer who blames an alleged artistic temperament for all his deficiencies.

Song interpretations must be convincing and easily understood, and must fit in with the average educated thought. But in addition they should evidence just that little extra artistry, that occasional flash of genius, which denotes the artist.

The Absence of Imagination.

The vocalist who lacks imagination or who, possessing it, does not bring its influence to bear upon song interpretation, can neither obtain nor provide much artistic satisfaction. The display of a fine resonant powerful vocal tone without the elevating grace of artistic interpretation, is anything but artistic singing, and few will derive real pleasure from listening. The pleasure, which is purely physical, will be only the singer's. The feeling of satisfaction experienced by any singer who can merely produce a powerful note, properly placed and poised, is not inspired by artistic thought.

Need for Artistic Vision.

Unless song interpretation is vitalised by artistic vision and imagination, that emotional satisfaction so essential to artistic completeness is denied both the singer and his hearers. Singing without imagination is sterile and inartistic.

Training of the Imagination.

Thus the training of the imagination becomes one of the main considerations in the more advanced stages of vocal study.

Reconstruction of Ideas.

The song interpreter must acquire the ability to reconstruct the results of the functioning of an artistic imagination in others. He must be able to bring his own ideas into sympathy and harmony with those of both composer and author, his own imagination finding sufficient in their words and music to direct its functioning aright. The analysis of his songs is the only means of establishing this harmony of ideas. All feelings and incidents portrayed must be isolated and studied in detail. The reason for the particular melody, the form and construction of

the accompaniment, and the influence which these two factors exert singly and jointly upon the complete song picture, must be considered and understood. The singer must acquire the ability to see beyond the mere words and music and to probe the secret of their inspiration. The results of these investigations should enable his own artistically trained imagination to display a vocal picture of as great beauty at least, as that which inspired the composition.

The development of the imagination in the reconstruction of the artistic thoughts of others can be greatly encouraged by intelligently reading the best authors as well as the poets. Works of art of all kinds should receive analytic consideration.

The Habit of Artistic Analysis.

Through a sufficiency of practice in these respects, a habit will be acquired of endeavouring to fathom the meaning of everything performed or constructed for artistic purpose, the singer's outlook becoming one of continual artistic analysis and reconstruction.

The singer's repertoire should be subjected to a similar process of analytic study. The manner in which the words of his songs have been treated as regards melody, style, accompaniment, harmonies used, etc., is the result of the considered ideas of the composer how best to ennoble the text and to enhance its artistic force. The melody and accompaniment constitute much more than the background. They form at least half of the picture and must be studied as such.

When the text and melody, with their subsidiary parts, have been analysed and when the inspiration of both have been reconstructed and understood, the singer's task is to allow his own imagination to be so influenced by these forces that his scheme of interpretation will focus all the salient points of both text and music into their true perspective and inter-relation.

The more cultured and trained the imagination, the more artistically valuable do the results of its functioning become. But song interpretation will never reap the full benefit of such an imagination and will never display the full force of the singer's originality until originality and imagination are supported by personality, magnetism, nerve-control and musicianship.

Personality.

A strong magnetic personality is of inestimable worth in the practice of song interpretation. Its development does not lie within the singing master's province, nor can it be taught. It is of oneself, and is developed and strengthened by education, environment and experience.

The presence of such a personality is obvious even to the casual observer. Successful men in all walks of life are possessed of it in varying degrees. But it is he, to whom the combination of personality with discernment has been provided in more than usual abundance, who will become a force in his particular sphere—a leader of men.

The singer with personality and magnetism can create, at will, that feeling of sympathy and friendliness between himself and his hearers, so important to a successful vocal performance. He can infuse that feeling of accord into each individual member of his audience, so that the performance becomes a personal matter between himself and each listener. He can quickly establish an atmosphere of mutual personal interest and harmony of thought between himself and his hearers who will enjoy his presence, a feeling which lingers even after the performance is ended. He and his audience are in perfect sympathy.

Sympathy and its Influence on Personality.

Sympathy is perhaps the greatest of all human forces. Just as two stretched strings sounding the same pitch reinforce each other and are said to be vibrating in sympathy, so do two individuals by sympathy of thought and deed benefit each other mentally and physically.

The audience of the singer, on account of its position as such, is predisposed to place itself in sympathy with his vocal thoughts. It is prepared to accept such vocal ideas as the singer may wish to transmit, provided they are not antagonistic to common thought and are reasonably truthful pictures of the song. If the singer's knowledge and training justify him in having complete confidence in his vocal ability, if he knows his work perfectly, if he is an artist and knows his business, his personality will soon create the sympathetic atmosphere. A mutual interest will have been stimulated, placing both performer and listener at their ease.

Magnetic Personality and its Force.

But success in this respect can never be achieved, however forceful the personality, however strong the magnetism, if the singer fails to radiate the engulfing strength of these forces. There is an indescribable, intangible something, a kind of invisible beam which can be established only by the radiation of these forces and which completely arrests the attention of each member of the audience. It is along this beam that are flashed and are reflected feelings of sympathy, friendliness and mutual harmony of thought, making all the difference between the measure of success achieved by one singer and that of another. The singer who does not grasp the attention of his hearers and hold it firmly immediately it is offered, creates the same impression as the person who will not meet us eye to eye. Both effects

are similar—lack of sympathy, loss of personal force, absence of magnetism.

It is as easy to sever this connecting beam as it is difficult to establish. Disturbances of either singer or audience play havoc with it, and personal touch is lost. Once the sympathetic beam is broken it can seldom be re-established during the progress of the song. Usually the singer is more to blame than his audience. Many antagonistic influences cause him to feel unhappy with his audience. These influences include mental inertia, lack of enthusiasm, bad deportment, undisciplined artistic temperament, nervousness, inadequate rehearsing, inadequate musical training and unreliable memory, and each deserves separate consideration.

The Active Brain and its Influence on Personality.

Behind the magnetic personality is always found the active brain. Everyone possesses some degree of personality, but whether its influence is positive or negative depends upon the mentality behind it. The positive personality radiates activity, energy, enthusiasm and confidence. The negative personality creates entirely opposite impressions.

Positive and Negative Personality.

The development of the personality into the positive or negative form depends upon the manner in which the individual has been taught and has accustomed himself to think, and the manner in which these thoughts are selected to form the ideas to which physical expression is given. Positive personality, with its accompanying magnetism, introduces vigour and enthusiasm into everything taken in hand. It is possessed by the doers of things. It is founded upon a just confidence in self, established upon the sure foundation of adequate knowledge and experience. It displays force of character and energy of mind.

The energetic mentality is seldom found where the physical condition is below par. There are, of course, exceptions to this, and in certain walks of life the physical weakling is often possessed of an unusually energetic mind. But seldom is the physical weakling a singer. Voice has a physical basis and with few exceptions singers are recruited from the strong animal type of humanity, muscular and vigorous, of stout heart and strong lungs. Almost all the great voices which the world has heard have been possessed by people of this type. Almost invariably they have been sons and daughters of the people. Some who have had the advantages of gentle birth have gained prominence in the musical world, but they are the exceptions.

Anything reasonable is possible. It is both reasonable and possible to inbuild almost any character even although the individual may be predisposed to adopt any one particular type. With this ability is also found that of developing the personality towards either of the two types selected, positive or negative.

Positive Personality Essential.

Positive personality is essential to the singer. It vitalises his singing and renders the impression which he creates a strong and lasting one. It enables him to experience that feeling of having full command over the song thoughts of his audience. He can carry them at will into the art land of his imagination, where he provides that full emotional satisfaction which proclaims him the artist.

Elements of Positive Personality.

The elements of a positive personality include a healthy and clean mind—a strong character—a sympathetic nature—a cultured habit of thought—self-reliance and confidence—a rich

experience of life—an authoritative and energetic mentality—and, the greatest of all, an understanding and love of humanity.

Deportment and its Influence on Personality.

Deportment is another force in the personality of the singer. The physical bearing of the performer is taken to be merely a reflection of his ideas. The singer who slouches or lolls about cannot expect to radiate the same energetic confidence and enthusiasm as he who displays a bearing of easy dignity and confidence. The former suggests indifference and inertia. Before he sings his first note, his audience knows, by the unsympathetic and almost antagonistic atmosphere his presence creates, that he is dull and bored, and they naturally feel ill at ease and aggrieved. The singer who fidgets or continually shifts his eyes or head about has anything but a soothing effect upon his hearers.

The habits of thought greatly influence the physical bearing. Energetic mentality may be observed in its possessor's manner of walking, in his handshake and by the way in which he behaves generally. The pessimist, being always sorry for himself, is usually bent and bedraggled. The former stimulates enthusiasm, the latter nothing but irritation. Deportment improves with the advance of experience, and the student should seize every opportunity of facing audiences, gradually increasing in size and importance, until he can perform anywhere feeling completely at ease. He will soon learn how he is expected to conduct himself. There must never be any suggestion of superiority in his bearing, which while upright and dignified, must at the same time remain sympathetic and friendly. To hold the attention of his hearers he must look at them steadily. Only experience can teach the young singer how

properly to conduct himself, look well, dress correctly and to establish and maintain that atmosphere of sympathy and mental harmony, so essential.

Encores and their Influence on the Singer's Personality.

Over-anxiety to seize every opportunity to take encores or conversely, absolute unwillingness to give them, are common indiscretions of the modern young singer, which detract considerably from the artistic value of a performance. Both amateurs and professionals are equally guilty. Many vocalists whose singing may be beyond reproach, seem to possess a senseless ambition to see how many recalls they can secure. They literally daze their hearers by a bombardment of extras. Encore after encore may seem all right in press notices, but they drag out the concert for the audience, whose appreciation lessens as the interest lags. A much more enthusiastic audience and a greater artistic impression would be left if artists were less anxious about and liberal with encores. Any programme item which is received with unusual enthusiasm should be repeated. The audience ask for that. They do not encore one item in order to be assailed with another of little importance, classified, probably, in the singer's repertoire as an "encore song." The artist who barely gets off the platform before he reappears with another number is egotistical and foolish. His idea is to hurry back before the applause has time to subside. Many programmes fall absolutely flat on account of this unreasonable practice.

The artist who has fully made up his mind to give encores, who even has them laid out all ready in the artists' room, but who keeps his audience waiting although the applause fully warrants his reappearance, is perhaps even a worse type of vocal tyrant. When his waiting has reduced the applause to fading point, he strolls back to the platform looking very smug and

self-satisfied. He irritates the audience. They soon decide that he is both conceited and ill-mannered—and probably he is. Every platform performer, be he amateur or professional, should learn to recognise just the precise moment at which he can leave his hearers longing for more, rather than feeling that they have had quite enough.

A few great artists do exist who possess real musical genius combined with such unique personality that they could hold the attention of their audience almost indefinitely. But they are exceptions. "Enough is as good as a feast," runs an old adage which the young singer should never forget.

Artistic Temperament.

True artistic temperament is essential to true artistic interpretation. It is a department of mind more obscure in its origin than any other. Some people possess it in a most marked degree, while others—the opposite extreme—are entirely without it.

When an artistic temperament is properly controlled and directed during the practice of any of the arts, results much richer in artistic feeling and emotional expression will be achieved. The vocalist, who has so studied and practised his song that the vocal reproduction of it has become automatic, can, by leaving voice control to his subconscious mind, take his conscious mind away from his immediate surroundings and lose himself in the song. It is under such circumstances that the properly controlled artistic temperament comes into the full force of its grandeur. Ideas present themselves on the spur of the moment. The song becomes full of life and energy. True artistic feeling is provided with an outlet, resulting in a forceful and energetic interpretation. His renderings brim over with those waves of vitalising inspiration which characterise the singing of the great.

The Singer always Master of Himself.

But the conscious mental supervision of the interpretation must never falter. The singer must not be so lost in the song that the mental control of his singing wavers. Temperament must never be allowed to run riot. Looming out of the haze of inspiration, interpretation, atmosphere, personality, temperament, and so forth, is the fact that he is the singer. The control and direction of interpretation must never be allowed to lapse. The voice must be something more than the intermediary between the poet and the audience. There is the delivery of the message of the music—and the music is as important as the text. Without music there can be no song. The message of the music must be in the foreground of the picture always.

The singer is there to analyse and reconstruct the ideas of the poet and musician separately and then to give them together a convincing and understandable vocal delivery. He clothes the messages of his song with tone colour and dramatic force according to his understanding of the particular moods and emotions which they portray. The truer the understanding the more of the original ideas of their author will the song messages retain.

The Effect of the Emotions upon the Singer.

The real artist neither allows the emotion of songs of sorrow to overthrow his control of vocal tone quality, nor the hilarity of songs of cheerfulness to outweigh his good judgment as to their artistic rendering. A song should never be offered for public performance until the singer has become more or less accustomed to the effects of its moods and emotions by repeated rehearsing in private. The mental and physical control of the vocal apparatus depend upon its entirely unfettered operation which is impossible if the words or music, or both, have distinct emotional effects upon the singer. He must be complete master

of himself at all times and his song interpretation must always be kept under control. To sing artistically he must feel the emotion and dramatic force of his song, but only up to a point. The artist must be able to feel deeply so that he may call up the physical reaction of such emotions, but there must be no attempt at anything approaching complete abandon. By meditation and rehearsal, by planning particular lines of action, the singer should so perfect the emotional part of his interpretation that he can deliver to his audience a rendering so full of sympathy, so full of emotion and dramatic force that he conveys the impression of living his characters and being greatly affected by the emotion of his song. But all the while he must remain mentally cool and collected, controlling and varying his vocal tone, closely watching the effect upon his hearers and wilfully playing upon their emotions. His mind must be kept clear and his eye keen enough to observe the effect of every variation of his vocal tone colour. During the performance he must criticise his interpretation continually, modifying his song ideas at any time and to any extent necessary. Many of the most brilliant vocal artists appear absolutely to live their songs. They could not actually do so and remain the great artists they are. There is a vast difference between feeling a song and living it. The former is necessary so that the physical display of those feelings can be decided upon for transmission to the audience, but the latter would completely rob the singer of the ability to exercise any mental control over his voice or physical bearing. It is the general experience of artists that the more they live their songs the less are the effects produced upon their hearers. The singer is there to transmit the messages of his song to the mind of his audience through his voice, making *them* feel its emotions. He cannot accomplish this unless he retains complete self-control.

The False Artistic Temperament.

Frequently that control is deliberately shattered, and the singer's friends credit him with an artistic temperament. The deviations from the normal by those overburdened by what is alleged to be an artistic temperament are commonly known. The eccentricities which usually accompany such a temperament are rapidly disappearing and this sobering up of a certain type of performer, although robbing the musical world of a certain amount of surface colour, is all to the good of the art of singing.

The modern audiences expect to see and hear human beings who can supply them with the artistic satisfaction to which they are entitled. Artistic temperament, in the eccentric meaning of the phrase, is now seldom found except perhaps in the dilettanti who imagine—sometimes they are taught—that a never-failing supply of eccentricity is absolutely necessary before they can be considered anything like fully equipped for musical activities. If the young singer goes about the country imposing upon the intelligence of his audience by displaying a false temperament, which can lay no claim to being artistic, he will be well advised to find some outlet other than public singing for his artistic eccentricities.

Those with no Temperament.

Singers who possess but little temperament or a temperament, which on account of the dictates of their social and business life has been almost stifled, may succeed in resuscitating real temperament through a systematic training of their imagination.

Many vocalists are absolutely unimaginative. They may be fortunate to this extent that they are absolutely unimpressionable and appear to sail through life with calm tranquility, while their sensitive neighbour, with temperament and artistic insight,

may be so impressionable and emotional that his mind reacts to any little deviation from the commonplace. He is daily moved by happenings which the unimaginative never even notice.

Singers who are unresponsive to artistic creation will never sing artistically. However, much can be found in modern songs which requires neither imagination nor artistic interpretation and in which one can understand the construction of the music and the manner of its application to the words, without artistic insight. Provided nature has endowed the unimaginative with the necessary vocal excellence, they may become reasonably successful public performers and do quite useful work by adhering rigidly to words and music as written. Frequently such singers are more pleasant to hear than those overburdened with imagination who allow their temperament to use the voice instead of the voice their temperament.

Nervousness: its Causes and Control.

The singer's endeavour is to bring the thoughts of every member of his audience into concord and agreement with his own. He becomes the transmitter of vocal ideas to his hearers and the temporary controller of their line of thoughts. If he approaches his work with his nerves all out of control and with his mind in a panic, the mental and physical discomfort which invariably accompany such feelings are immediately transmitted to his audience and any artistic value his singing may have is speedily ruined, his performance becoming an unqualified failure.

The vocalist has no greater enemy than nervousness. Under its influence premeditated plans of interpretation are forgotten, the feeling of nervousness increasing as the mental processes become more chaotic. When the singer suffers from acute nervousness he radiates to his audience discomfort and fear in-

stead of messages full of personality, magnetism and artistic song pictures. The audience becomes embarrassed and its more sympathetic members suffer physically and mentally no less than the singer. They become restless. Their infection soon spreads, causing everyone, not excluding the unfortunate artist, to feel ill at ease and miserable. Unfortunately the trouble does not finish with the exit of the transgressor. The tense, nervous atmosphere continues indefinitely, placing at a disadvantage the succeeding artist, who is confronted with two serious problems. Firstly, he must disperse the existing atmosphere of fear and antagonism, and secondly, he must replace it by one of sympathy and confidence. He cannot expect his artistic ideas to find full appreciation and sympathetic reception until this has been accomplished. His problems are all the more difficult if his highly nervous fellow artist is expected to perform again.

Causes of Nervousness.

Among the many causes responsible for nervousness the following are the most common—imperfect vocal training—inadequate rehearsing—absence of confidence—inexperience—indifferent health—and, above all—wrong habits of thought.

Imperfect Training.

The one way of perfecting the vocal training is to go on with it under expert supervision.

Inadequate Rehearsals.

Inadequate study of a work and inadequate rehearsing are very common indiscretions and are perhaps the principal causes of lack of confidence. Inadequate preparation is inexcusable, except when the singer has to deputise at very short notice in some new or unusual work. The singer must acquire

as representative a repertoire as possible before attempting serious public singing, and a deficiency in this respect can be made good only by continual work.

Lack of Self-Confidence.

Lack of self-confidence is frequently the result of ignorance. Confidence in self can be established only when the individual knows within himself that he understands his business.

It is impossible for the singer to be comfortable in his performance if he knows that the work to be performed has been inadequately rehearsed and that the words or music require to be read. An audience has no desire to listen to a singer whose every word and gesture registers fear and nervousness. In each case the means of establishing harmony of thought are absent.

Inexperience.

Inexperience is merely a matter of vocal youth. Experience can be acquired by singing before audiences only, and every opportunity must be seized to add to it.

Self-Control.

Self-control, with its accompanying feeling of confidence, is not an inborn faculty. It is rather acquired by mind training, knowledge of self, experience of life in general and personal experience of the circumstances and trying conditions of public performance in particular. The operation of its influence becomes possible only after fear and nervousnes have been brought to submission. The conquering of nervousness will always remain the most pressing problem of the beginner.

Conquering of Fear.

Fear is a mental state which results in the formation of a certain type of idea. Nervousness is the result of its activities. If the individual lacks sufficient self-control these fear ideas

become involuntarily expressed. The manner of their physical expression varies according to the individual and to the nature and extent of his mental and physical reaction to them. To gain self-control one must bring the least display of fear or nervousness into immediate submission. It is consequently necessary to inhibit all fear ideas and to supplant them with better and stronger ideas. That is to say, if the involuntary physical expression of fear ideas causes the knees to tremble, they should be steadied immediately by determined voluntary muscular control. If the breathing becomes accelerated from the same cause, strong voluntary muscular action should be applied immediately to the steadying of the action of the breathing apparatus. The more often the involuntary physical expression of fear is defeated, the more often it is countered by voluntary mental and physical activities, the sooner will nervousness be conquered. Each victory over fear and nervousness makes succeeding battles more easily won until eventually the display of fear and nervousness can be controlled by a mere thought.

If, on the other hand, no endeavour is made and no success attained in the voluntary control of the mental and physical reaction to fear ideas, nervousness will become more deeply rooted in the character and increasingly difficult to eliminate. Self-control must be practised until it becomes absorbed into the character.

The Influences of Fear.

Fear is perhaps the most fundamental of all human feelings. Its presence stimulates the instincts of self preservation into full activity. The mind is immediately confronted with a great variety of suggestions of how best to deal with the external conditions—real or imaginary—which have given rise to fear feelings. These suggestions are usually instinctive which, in the absence of a strong self-control, form ideas which find in-

voluntary physical expression in a great variety of ways. The common instinctive suggestions are—flight from the danger—manipulative activity against it—combat with it—immobility—being rooted to the spot—collapse—panic—involuntary action of the vocal apparatus. The presence of fear ideas acts reflexly upon the mind and body, preparing both for the particular line of action selected and followed. If there is no self-control and this selective action is done in a panic, the individual will do the wrong thing nine times out of ten.

Except in the case of immobility and collapse the presence of fear ideas has the result of stimulating many of the vital organs of the body into unusual activity. Immediately danger is scented the breath is held, the muscles becomes tense and the sensory organs become more acute. On realisation of the danger the action of the heart accelerates, the breathing quickens, the ductless glands become unusually active, the muscles become braced in preparation for action, those of the skin, i.e., round the pores—tighten, forming a greater protection for the body, causing the hair to stand on end and the blood to be driven inwards from the skin's surface. The subject feels cold and quivers all over. All these sensations disturb the natural functioning of the body, affecting the vocal apparatus most of all, even the slightest nervousness being betrayed by the vocal tone.

In extreme cases the subject becomes speechless with fright. Sometimes all the muscles refuse to respond to the brain messages. The individual becomes rooted to the spot and quite incapable of speech. The memory becomes a blank, a state known to artists as stage fright. The reason for immobility and collapse would appear to be a breaking down of the instincts of self-preservation. By some psychologists it is thought to be a relic of nature's way of eliminating the weak. By others it is thought to be the result of the victim's inability to make the necessary selective action of the most suitable means of dealing with the cause of fear.

The Suppression of Fear.

The suppression of fear and the conquering of nervousness are anything but impossible to the normal brain. They are ingrained in the human mind from early childhood. Children who show fear are despised by their playmates and are made the butt of so many practical jokes aimed at their failing, that they realise very soon that fear must be hidden. Adults who show fear and nervousness are treated with pity or contempt by their fellows. They too very soon learn that, no matter what their thoughts may be, they dare not show their fear. Thus the display of fear becomes gradually suppressed. But many go to the other extreme, our modern social outlook placing a premium on any form of bravery. Men and women will do very rash and quite illogical acts because a certain habit of thought has been instilled into their thinking. A common example of this foolhardiness is the non-swimmer jumping into deep water in an obviously futile endeavour to save another. The behaviour of the soldier under modern war conditions shows the extent to which the physical display of fear can be suppressed in the extreme, where men, living in constant danger of violent death, seldom allow their feelings to get the better of them. The instinctive suggestions—flight, combat, etc.—still present themselves to the mind, but the inhibition of the fear ideas becomes increasingly easy as the influence of the stronger and more reasonable idea develops, and the individual gradually learns how to control himself.

Nervousness the Shadow of the Effects of Fear.

But even with training and experience, the mere shadow of giving way to these instinctive suggestions remains and the individual feels nervous. Every public performer who suffers to any great extent from this mental malady, fails to secure the complete artistic success which otherwise would be his, and for

which his training has particularly prepared him. Lack of nerve-control is frequently the cause of one artist of outstanding ability falling short of the measure of success achieved by a less able colleague. The public judge by results and the first artist, although capable of much finer work than the second, is restricted by nervousness from emerging from the mediocre.

Nervousness manifests itself in many different forms. Some are obvious to others and some are not. But in whichever form it appears, it is highly infectious. It affects certain members of the audience almost as much as it affects the performer, depriving the latter frequently, of all hopes of artistic success.

Some artists expect to be nervous and consider it to be one of the signs of an artistic temperament. Some even pride themselves in their inability to control themselves. Such a state of mind is entirely wrong. Nerve-control can and must be obtained. The singer must acquire absolute self-control. It is merely a matter of will and opportunity.

The Acquisition of Courage.

The young artist cannot afford to accept the mentally stagnant belief that because certain things have been, they must remain so. He must lose no time in gaining control of his nerves, for if nervousness is allowed to persist it very rapidly becomes a part of the individual. If on the other hand ideas of strength and fearlessness are encouraged and mentally absorbed, nervousness will be displaced rapidly by a more courageous mental attitude to public performance, resulting in the attainment of a much higher standard of artistry.

Influences which bring on Nervousness.

Nervousness is by no means the display of a weak will. It can be brought on by a feeling—real or imaginary—of inability to do certain things as correctly as one knows they should be done and as one desires. The display of its mental

presence is largely due to lack of training together with the fact that for generations nervousness before and during the ordeal of public appearance has been accepted as a necessary evil. How often is a young artist asked before his first important performance if he is not feeling nervous? He is expected to be so, and naturally, if he is not, he rapidly becomes so.

The more difficult a work has been to prepare the more anxious will the conscientious artist be. In the young singer, such anxiety is not only excusable but also highly desirable, but the artist of experience has no excuse for nervousness. Training and experience are the two factors by which nervousness is suppressed, and where nervousness exists there must have been an inadequacy of either or both.

The Correct Habit of Thought.

A courageous and confident habit of thought can be acquired by correct thinking. It will influence public performance in no less a degree than it will improve the subject's general outlook on life. As nervousness is reduced, personality and magnetism increase in force, the character becoming strengthened with the establishment of self-control and self-confidence.

When two ideas arise the mind deals with the one which is uppermost unless the individual's better judgment decides that the other is the more beneficial. The presence of bad habits can be traced to the absence of better ones to supplant them, and if bad habits have been allowed to persist, good ideas require to be presented to the mind by suggestion for special consideration and treatment. For example many people fear the dark and will not willingly venture where they cannot see. This form of nervousness—which is nothing more than a bad habit of thought—is brought about by suggestion in the first place, probably in childhood, that certain things—imaginary though they be—are to be feared in the dark. By allowing the habit of thought to persist and by not supplanting it by better and

stronger ideas through suggestion, dread of the dark still remains in the adult. Of course the natural tendency to flee from the dark has been inhibited by much stronger ideas created by the realisation of the ridiculous effect such activity would create, but the nervous feeling remains.

If no fear of darkness suggestion had been made in childhood or if the first indications of such fear had been eliminated by constructive suggestion, the erroneous ideas which now exist would not have arisen.

Influence of Suggestion.

Good habits of thought can be encouraged by suggestion just as readily as bad. We counteract bad habits by the persistent suggestion of good ones, and a receptive and discriminating mind is never slow to accept the good and dispense with the bad.

The power of suggestion is one of the greatest forces at the disposal of the human mind. By suggestion one person can influence—in fact sometimes completely control—the course of another's thoughts and actions. We influence each other by suggestion. Bad habits, including nervousness, can be cured by the directing of this force into proper channels and by concentrating its influence in the required direction.

Difficulty of Eliminating Nervousness in the Experienced.

It is easier to eliminate nervousness from the thoughts of the inexperienced than from those of the experienced. Each experience of public performance suggests to the singer what to expect on a future occasion. The idea is in itself quite reasonable. We can tell by past experiences of certain circumstances, what probably to expect when similar circumstances recur. The more often the singer's experience of public appearance has been one of nervousness and failure, the more nervous does he

become at the thought of the next one. An enormous mass of destructive suggestion is thus heaped upon him. Public performances are dreaded and even evaded, the singer becoming a bundle of nerves.

Constructive Suggestion.

Constructive suggestion can be employed to create as definite ideas in the opposite direction. The receptive brain can be trained by systematic suggestion not only to inhibit the acceptance or consideration of wrong suggestion, but also to become positively impervious to it.

Nervousness does not constitute the normal attitude of the public performer but is the result of the early mental absorption of entirely wrong impressions. Nervousness and successful public performance do not go hand in hand. They are as far apart as the poles. The artist cannot consider his public work really good unless he gives of his very best, and this is impossible if he is not cool and collected.

Self-Confidence Essential to Self-Control.

Self-control is impossible without self-confidence. The singer must have so trained his voice in the broadest sense that he can rely upon it to meet all the demands of *both music and audience.* The vocal apparatus must be trained to the highest possible state of physical perfection. The body must be maintained in a healthy and vigorous condition, for any disturbed state of health reacts upon both mind and body. Similarly any disturbance of mind reacts upon voice and health. When the mental and physical vitality are below par the voice does not feel in form. If, on account of this, the singer has reason to expect that his performance will not be up to his usual standard, he will lose some of his self-confidence. The individual with self-control will, under these circumstances, become perhaps a little anxious, but he who lacks self-control will lapse into acute

nervousness. Mental depression and physical tiredness follow, interfering with certain vital processes and resulting in a general devitalising of the whole body.

Influence of Adverse External Circumstances.

We have seen that the control of nervousness depends to some extent upon the health of mind and body, but certain external influences, over which the artist has no direct control, may increase the difficulty experienced by the young singer in keeping himself calm. For example, it is most difficult for him to remain cool and collected when he sees a more experienced artist obviously nervous. If he is booked to appear on the same programme as a celebrity, he cannot but feel just a little more excited than usual. If the presence of some other artist on the programme is in any way distasteful to him, his nerve-control is bound to suffer.

Nervousness in the Trained Singer.

Nervousness in the trained singer may be attributed to the following three main causes:

(a) Incorrect mental attitude.
(b) Lack of physical fitness of voice and body.
(c) Adverse external influences.

The first cause probably accounts for more cases of nervousness than the other two.

The Allaying of Fear when First Felt.

Fear of being nervous at an important public performance usually manifests its presence in the young singer some time before the date of the concert. If that fear of nervousness and mistrust of self is not allayed, if it is not countered by the suggestions of one qualified by experience to advise, it is only natural that the young singer's nerves will become frayed and

on edge long before the actual performance. The singer is about to attempt something for the first time and his past experience is inadequate to assure him that all will be well. He knows his songs perfectly, but the new and abnormal conditions which he is about to face cause him anxiety and concern as to whether he can give a perfect reproduction of his rehearsals. If the young artist has come under the influence of constructive suggestion and has progressed in the acquisition of his nerve control, his feeling of doubt and anxiety will be mixed with those of hope and determination to do his best. If there has been no constructive suggestion his mind will be more or less in a panic.

Successful Appearance of Great Benefit to Nerve-Control.

If the appearance be successful, if the singer feels his nerve-control increasing, if he sings well and is not as nervous as anticipated, he will have commenced to lay for himself a foundation of self-confidence and courage which can be acquired in no other manner. Upon this foundation he will be able to build up a habit of thought in which nervousness will play but little part.

Influences of Unsuccessful Appearance.

On the other hand, if the first important appearance be unsuccessful, if the young singer falls to the influences of nervousness and his singing does not come up to his expectations, the mental attitude to his next performance will be, in the absence of constructive suggestion, nervous and fearful.

The majority of singers who try unsuccessfully to gain control of their nervousness at their first important performance, allow the adverse impressions created then to permeate their whole attitude to their next appearance. They dread it and become convinced long beforehand that they cannot but fail.

By thus associating fear with the thoughts of their next performance, their nervousness becomes increased considerably. Each time they think nervously without making a definite stand against the entertainment of such thoughts, the more nervous will become their next thoughts about the same subject. Thus the formation of an entirely wrong habit of thought is encouraged. In other words they are deliberately encouraging nervousness by practising it.

Nervousness generates nervousness and, if persisted in, nervous thinking becomes a habit, influencing the individual's whole outlook on everything. With such a habit, thoughts of failure will arise as a matter of course. The will-power will become diminished and the individual obsessed by a fear of something which he cannot describe. The more failure is experienced, the more it is expected. The more nervousness is allowed to dominate the mental attitude to public performance, the greater will be the difficulty in gaining any measure of self-control.

External Influences.

The external influences which bring about a state of nervousness in sensitive people like artists, vary a great deal according to circumstances. A small audience may entirely unnerve one artist, a large one having the same effect upon another. The knowledge that he is on trial and that certain members of the audience are sceptical as to his ability, tends to stimulate in the young singer feelings of anxiety and nervousness. The presence of a well-known musician or important critic may entirely upset one singer's nerves while another might be spurred on to greater artistic endeavour by the same circumstances.

Correct Suggestion.

Whenever singing before an audience is thought of the young singer must force himself to think of it with courage and self-confidence. The process of substituting good ideas for bad

must be supported by the will, and constructive thinking must be continued with persistence and determination. The more deeply rooted the wrong habits of thought, the longer will the process of substitution take; but if the singer is determined enough, if he never allows his line of thought to swerve from that of courage and self-control, the wrong habit of thought will rapidly be transformed into a correct one, bringing all feelings of nervousness under control. Each successful attempt to overcome nervousness will add to the accumulation of constructive thought, and the singer will begin to feel within himself that he is winning in his fight for self-control.

The intelligent person does not require to be persuaded that nervousness is destructive and that courage and self-control are constructive. If these facts be suggested to the victim of nervousness in the correct way and by one whom he considers qualified by experience to know, he cannot but give these views his personal corroboration.

The character is formed by the individual's habits of thinking and the early foundation of that thinking is laid by suggestion. In childhood, our elders guide us in the way we should go by suggestion, moulding the foundation of our character by influencing us to think in certain directions. If only thoughts of kindness and gentleness are encouraged, the foundation of a correspondingly kind and gentle character is laid within us. This character remains if we are not brought within the influence of what appears at the time to be the more attractive suggestions of experience. The temperament will remain kindly and meek. If thoughts of energy and authority are encouraged a correspondingly forceful and energetic character will result.

If, during vocal childhood, thoughts of fear and timidity are constantly encouraged and entertained, the singer will develop a timid and retiring outlook. Instead of his mind being freed

to control his song interpretation, it will be obsessed by dread of failure, and will become unreasonably fearful of anything upon which imagination cares to seize.

Nervousness is purely mental and can be cured. The first part of the cure is to prove by analysis and reasoning that nervous thoughts are abnormal and are the result of abnormal circumstances. The student should think out the whole position. If he is reasonable he will soon realise that nervousness is a weakness which he can conquer only by absorbing a new habit of thought and new character.

First Attempts the most Difficult.

First attempts to create new habits of thinking are naturally the most difficult, but supported by intelligent determination the apparently impossible can be accomplished. It is easy to say to oneself "I will not be nervous." The actual difficulty lies in the realisation of the fact in face of previous practical experience to the contrary. By reasoning and persistent repetition, such thoughts will work their own salvation and in time a more logical outlook will be formed.

The brain must be made to think logically and fearlessly each time thoughts of singing before an audience arise, and within a surprisingly short time thoughts of nervousness will be the exception. Unnerving ideas will fade as the entertainment of stronger and better ones is persisted in.

The Use of Auto-Suggestion.

A great deal of good work can be accomplished in the conquering of nervousness by auto-suggestion, and a few short pointed phrases should be used, the wording of which must never be allowed to vary. Immediately the first symptom of nervousness appears, the thinking should be brought under the influence of these counter suggestions. The few auto-sugges-

tion phrases given below, although they may appear in print somewhat childish, have been proved by experience to be of considerable value in the evolving of a correct mental attitude towards public work. When adequately and resolutely applied they provide a rapid means of combating nervousness successfully. These can be modified to suit particular purposes, but the general idea is shown below, and the sentences given should be applied from the beginning of the student's preparation for public singing.

(a) I will not be nervous.
(b) Nervousness is ridiculous.
(c) I am master of myself.
(d) I know my business.
(e) I feel at ease.
(f) My memory is clear.
(g) I will remain calm and collected.
(h) My voice is in good form.
(i) I will enjoy singing.

Effects of Auto-Suggestion Phrases on Physical Bearing.

Every retained idea exercises considerable influence over one's physical bearing. The mental impressions, formed by the voluntary expression through physical activity of a retained idea, become more marked by each successive physical expression and the muscles involved become more responsive. The more frequently the retained idea is brought to mind, whether by auto-suggestion or not, and the more frequently its physical display influences the general physical bearing of the individual, the deeper do the mental impressions become. By a sufficiency of accurate repetition of the physical display of the retained idea, the whole process becomes mentally absorbed and a new habit is formed.

So that the thoughts contained in the above auto-suggestion phrases may be mentally absorbed and influence the formation of new habits, it will be necessary to get into the habit of making the physical bearing so adjust itself by voluntary muscular activity, that it gives a reasonably accurate display of the idea which the auto-suggestion phrases are being utilised to form. Thus the mental impressions will become reinforced physically and their physical display reinforced mentally.

It is quite futile to repeat "Nervousness is ridiculous," and at the same time to allow the physical bearing to display every possible symptom of fear and dejection. The physical bearing must be made to display the mental attitude desired. It is useless repeating "I am master of myself," while at the same time allowing the body to quake all over and shiver with fear.

A physical bearing of courage and fearlessness alone can ensure the absorption of the correct mental attitudes. The student should stand up to his full height, shoulders braced back and chest expanded, adopting altogether a fighting and determined attitude, in which nervousness has no place.

Obviously no amount of repeating "I know my business" will assist the singer to know his work when it has not received adequate study and rehearsal. The mere repetition of "My memory is clear" will not present the singer with a good memory, which, of course, can be acquired only by proper training. The singer cannot reasonably expect to be able to face his listeners fearlessly if he knows within himself that his work is unprepared and that his voice is insufficiently trained.

Self-Satisfaction Dangerous.

The danger of becoming bold and self-satisfied must be stressed.

A certain element of discontent is very desirable, for it drives the individual on in pursuit of that ever-elusive artistic perfection.

When nervousness and its attendant evils have been brought into submission, the singer will be able to give of his best always. His art will then emerge into the full glory of its being.

Musicianship.

Musicianship is as necessary to the vocalist as it is to the instrumentalist, and its absence from the equipment of the former is frequently responsible for lack of the complete success of an otherwise excellent singer. A good general musical education supplies knowledge of vital importance and provides the singer with a much broader outlook upon his particular branch of music. A knowledge of musical history and of the lives and works of famous singers is of value. The study of the rudiments and elements of music, harmony, form, musical analysis, etc., should be pursued from an early age.

The student of the violin or piano usually commences study at a very early age, and his mind is properly guided from the very first in the formation of the fundamental principles of musicianship. With the student of singing circumstances are frequently different. Little desire to study singing in earnest is experienced before the age of between eighteen and twenty is reached. If the student has had no instruction in the playing of some instrument, he will find upon taking up the study of singing that he has a voice, but little else. His deficiency in other things must be made good before much progress can be expected.

Sight-Singing.

Ability to read at sight is an essential in the equipment of the singer. This ability takes some time to acquire, and the practice of sight-singing should be undertaken from the very beginning of vocal training.

Many of our foremost singers possess little ability in this

department of singing, while many others whose singing is intolerable, are excellent sight readers. But the fact remains that if sight-singing is neglected, the vocalist will be handicapped in his career. Facility at singing at sight can be acquired by one of ordinary intelligence by practice. It requires in the first place an intimate knowledge of the rudiments of music and of the meaning and relative value of all musical signs so that they may be recognised and acted upon instantly. The regulation of the vocal activities by that which the brain understands by these musical signs, is a complex mental process the absorption of which requires constant repetition and accurate practice.

Ear Training.

Ear training should proceed hand in hand with the study of sight singing. Hearing which is faulty musically, places all other vocal ability at a discount, and therefore an absolute necessity for the singer is perfect musical hearing. The tone of the singing voice is good or bad according to the impressions it makes upon our hearing, although the impressions made by one vocal tone may be different in two individuals. One of the difficulties with which the singing master has to contend, is that of convincing the student that he is not producing the tone which he is trying for. In other words, that his vocal ideas are not receiving their true physical display. Faulty musical hearing may cheat the singer into believing that he is singing correctly, even although he may be as much as a semitone out of pitch, or be entirely mispronouncing a syllable. The student is more easily convinced by that which he imagines he hears than by what he is told. In the absence of the rectification of his faulty musical hearing, it is very difficult satisfactorily to convince him that his intonation is not true or his pronunciation inaccurate.

A false perception of pitch or tone quality can be eradicated only under expert supervision, and there is nothing comparable to the study of a stringed instrument (e.g., the violin, 'cello, etc.) for perfecting pitch perception.

Singing is usually accompanied by the piano, organ or orchestra, and it is fitting that the singer should acquire a general knowledge of at least one of the instruments with which his work is so closely associated, preferably the piano, which will prove the most useful. No vocalist should consider himself fully equipped until he has a reasonable command of the piano. It is of invaluable assistance in forming a repertoire, in the study of sight-singing, and, in fact, in everything musical connected with his training.

The singer who fails to provide himself with a workmanlike musical equipment will never emerge from that great majority of mediocrities. Music does not exist for singing. The latter is merely one of the branches of the former, and in that light it should be studied. The singer must be a musician first, and an all-round musicianship is imperative.

Accompanists and Rehearsals.

A good and sympathetic accompanist, whose ideas of interpretation agree, or have been agreed on rehearsal with those of the singer, is half the battle in good singing.

With few exceptions, all songs are written for the voice and accompaniment, and until these two main forces are working in harmony together, real song interpretation is impossible. The accompaniment is as important as the melody, and frequently ranks much higher musically. It is as important to the successful performance of almost any song as the voice. With certain few exceptions, any song sung with all the interpretation possible, but without the accompaniment, will result in anything but an artistically satisfactory performance.

The accompanist no more follows the singer than does the

orchestra its first violins. He is at least half responsible for the success of the performance, and in the shouldering of that responsibility his study of the accompaniment is as essential as the vocalist's study of the voice part. Many accompaniments provide the whole atmosphere of the song, the voice being merely the illustration. The creation of the atmosphere, contained as it is in the introduction of the work, is always in the hands of the accompanist, who gives the first indications of the *tempo* and mood of the song. Any indiscretions on the part of the accompanist may be disastrous to the success of the song. An introduction incorrectly played, an interlude played too pianistically, too much or too little support, etc., may ruin the artistic value of the joint performance.

The singer should rehearse with his accompanist as frequently as possible, for by so doing each will get into the other's ways, establishing a mutual understanding which will ensure the performance being at least in agreement.

The certainty of a never-failing support from his accompanist inspires the singer to greater efforts in the practice of his art. It gives him a command over his powers of interpretation greater than he can ever hope to utilise if he be impeded by an inefficient accompanist. Even after a most careful and searching rehearsal, the singer may, on the spur of the moment, modify his scheme of interpretation without warning. Provided his new ideas are logical, he will find that his accompanist, if he be an artist, is unhesitatingly supporting him throughout.

Rehearsals.

At rehearsals held immediately prior to public performance, the accompanist and the singer should go over the work to be performed with the greatest care and in every detail. The salient points of the interpretation must be agreed upon before the song is offered to the audience. No song should be con-

sidered fit for performance until the accompanist becomes familiar not only with the accompaniment, but also with the singer's ideas of the delivery and interpretation of the work.

Concert rehearsals should not be composed of merely singing over the tunes of the songs to be performed to enable the accompanist to get a rough idea of what the accompaniment is like. Each separate point in the interpretation should be rehearsed until both singer and accompanist become satisfied that a synchronisation of effect has been established before the rehearsal can be considered adequate. Each should feel that together they are making the very most of the song. The singer will frequently benefit by a friendly exchange of opinion with the accompanist as to the general flow, rhythm and delivery of his songs. It is conducive to a happy combination of his own endowments with those of his accompanist, culminating in the complete artistic success of the performance.

Slipshod rehearsing is likely to leave the singer uneasy and doubtful as to the support he can expect from the accompanist, and the accompanist uncertain as to what the singer may expect from him, and his accompaniments may consequently become hesitating and unsteady.

A good song is worthy of frequent rehearsing, and its interpretation is worthy of the services of an artistic singer.

Interpretation.

After the singer is completely trained and fully equipped, song interpretation will open up for him an almost limitless field of the study and expression of every variety of human feeling and emotion. It will also provide him with the means of influencing the artistic thoughts of each of his hearers.

The average brain is more developed in the reception and imitation of song ideas than in the formation and transmission of them. The singer is placed, consequently, in the advantageous position of having his audience prepared to

accept his song ideas provided they are reasonable and in accordance with common thought, although they should evidence that little more artistry which makes all the difference. The average imagination is developed along certain commonplace lines, but it is the singer's business to coax it into more artistic and pleasurable channels. If his vocal pictures are artistic and truthful, they will stimulate in the mind of each of his listeners artistic thoughts and ideas similar to those prevailing in his own imagination. They will provide the more sensitive and sympathietic mind with sensations of emotional satisfaction according to the success of their portrayal and the receptive ability of the hearers.

Most of us are taught from earliest childhood, rigorously to suppress any tendency to indulge in spontaneous displays of emotion. We learn to be bored rather than enthusiastic. Enthusiasm is the predominance of the emotions over the intellect, and is an artistic and ethical stimulus to the mentality. In order to transmit the emotions aroused in him by his artistic understanding, the singer must cultivate a nature readily responsive and not rigidly repressed.

It is seldom that any two singers have the same ideas about the interpretation of the same work, but if each be an artist the mental effect on the audience will be logical, forceful and clean cut. Interpretation is purely an individual thing, and it is therefore not only inadvisable but also highly dangerous to attempt to lay down rules and regulations as to its application to singing. It is killing to individuality and true artistry to attempt to interpret songs by rule.

Song Types and their Interpretation.

There are many types of songs, and each type, portraying as it does a particular human emotion, requires particular treatment and interpretation. The artist's interpretation of any one of the many human feelings and emotions may have in itself a

variety of effects upon different members of his audience—the members of one class of individuals being affected in one direction in differing degrees, and those of another class being affected in perhaps the opposite direction, also in differing degrees. These differences are the result of the manner in which real or imaginary experiences of the particular feeling and emotion have affected the individual listener, and the extent to which the singer's interpretation of these moods and emotions stimulates in each individual the recollections of their original experiences. The more external conditions are favourable to this recollection, the greater will be the interpreter's chance of success.

Narrative songs and traditional ballads are the easiest types of songs to interpret, having their story with its abundant supply of incidents and situations and their usual array of personalities for characterisation. These songs tell their own story, affording the intelligent singer limitless opportunity for interpretation. His imagination is not taxed to any great extent, and the delivery of such songs to intelligent and interested audiences is not difficult.

An audience seldom evidences difficulty in understanding the love song, provided the music is appropriate and the words not too extravagant. Certain love songs, of course, can only be described as sloppy, but the good love song, with its wealth of common human feeling, seldom fails to make an appeal, its understanding requiring little imagination. The amount of vocal picture painting required for the successful delivery of the love song must always be kept within reasonable limits, for there is nothing more inartistic than the singer overdoing the emotion.

Operatic arias provide great scope for dramatic declamation and artistic phrasing. They have a wide variety of moods and a wealth of beautiful melodies. Any individual unacquainted with the parent opera cannot be expected to understand the

story of an isolated aria, but he cannot fail to be impressed by the display of dramatic insight, vocal gymnastics, or sonorous tone usually associated with operatic singing. The better-known operatic excerpts are always appreciated.

Provided the voice and the dramatic ability are there, the operatic aria is not the most difficult type of vocal music, although it is one of the most effective.

Extracts from the oratorios and sacred songs are most successfully interpreted by the singer who can appreciate their religious message. He must be able to preach through his song, and he who does not believe cannot be expected to give the message of his song a convincing delivery.

The interpretation of rhythmic songs requires but little imagination, the melody and rhythm being their *raison d'être.* Their onward flow is held up only occasionally in order to give the necessary pointing to their few special features, which are usually so obvious and so well marked that even the unimaginative singer cannot but recognise them.

Folk-songs and dialect songs are most successfully interpreted by the singer who is either familiar with the local conditions and pronunciations, or bred in the district from which they originate. Their music is always refreshing, clean and rhythmic, and deserves much more attention than it receives.

Much of the interpretation of the classical song is circumscribed by tradition and custom. Its interpretation has been decided by successions of great masters of song interpretation, and the modern singer cannot do better than adopt the particular scheme of interpretation which most closely agrees with his own ideas, and which provides reasonable scope for the exercise of his own individuality.

Florid songs depend largely upon vocal technique. Humorous songs depend upon the singer's sense of humour and his ability to tell the tale. The young singer must never fall into the temptation of pointing out the joke to his audience. It is

no compliment to their intelligence. If they do not see his point, his interpretation is probably at fault and not their sense of humour.

The purely atmospheric song is the most difficult of all to interpret successfully. It requires the exercise of a wide musical insight and an organised artistic imagination. Seldom has the atmospheric song any dramatic incidents with which to hold the attention and inflame the imagination of the audience. The singer requires to appeal to the finer, more subtle imagination of his hearers. If he can make them understand the song as he would have it understood, he has established a bond of sympathy of thought and idea between himself and his audience otherwise impossible. He has proved himself the artist.

It is much easier to illustrate the dramatic incidents of the narrative and traditional ballad types, or to cause the audience to visualise the object of adoration in the love song, than completely to direct their imagination, however vivid and sympathetic, to purely artistic things. Success in the latter is truly artistic success.

Certain types of songs suit certain types of singers, and one's success as a singer depends very largely upon choice of song. The singer should never attempt to overstep the bounds of his own artistic and vocal limitations, which he should be able to recognise quite soon in his study and practice of the art of interpretation.

In song interpretation the words and music stand or fall together. It behoves every student to be and to remain true to both. Each one of his songs should be subjected to an analysis which probes into the very spirit and essence of the composition.

The issue of this should be a logical portrayal of the meaning of the song, and that is exactly what the ultimate aim of the student's preparation for song interpretation should be.

Chapter X.

CHOICE OF A TEACHER.

Importance of Teacher.

THE selection of a teacher is of the utmost importance. The successful issue of the student's study depends largely upon a proper choice being made at the outset. The problem of selecting the best teacher—and it is indeed a problem if one endeavours to make the selection from the large lists of teachers who advertise—would be more readily solved if it were more generally known what exactly there is to be learned, what the study of the art of singing involves, and what qualifies a person to teach.

Teachers who Cannot Themselves Sing.

A large number of musicians teach singing. A very considerable percentage of that number cannot sing, and possess quite an inadequate knowledge of the subject. Many of these teachers are excellent musicians and executants in the particular branch of music in which they may have specialised. But it does seem extraordinary that singing should be the only branch of music in which teachers exist who are not themselves executants. The violin teacher requires to be able to play the violin, and the piano teacher the piano, but many musicians teach singing without being able to sing.

Certain of these teachers may develop in an intelligent and musically inclined student an ability to sing in time and in tune with a certain degree of artistry. But they cannot be expected ever to be in a position to give real instruction in the training of the voice and in the formation and control of tone colour if they have never themselves experienced the mental and physical sensations associated with correct singing.

Practical Illustration Essential in Teaching.

Just as by his command of the keyboard an expert pianist can illustrate the particular effects an artist can produce on the piano, so should the singing teacher himself be able to illustrate the particular effects an artist can produce in the voice. Singing is controlled as the result of certain physical and mental sensations which can be described only by those who themselves have experienced them. Before the student appears before an audience, much has to be taught him which can only be known to those who are or have been singers.

The Teacher Instinct.

The teacher must have the ability to impart his knowledge and experience to his pupils to their complete understanding, and should know and be able to explain how vocal difficulties arise, and how most speedily and effectively they can be overcome.

Artists Seldom Successful Teachers.

At the same time it must be acknowledged that seldom does the successful artist possess the teaching instinct. He dislikes having to analyse and give explanations as to the practice of his art, and seldom will he be bothered with the teaching of any branch of singing, except, perhaps, song interpretation. In any case, such teaching of interpretation usually resolves itself into mere imitation by the pupil, without any attempt at

artistic originality or vocal improvement. The ability to impart knowledge to others is a *gift possessed by the very few*, and it is when that gift is included in the equipment of the vocal artist that the real teacher of singing is found. Many artists teach singing not so much from choice as from necessity, and although the majority are quite sincere in their work, sincerity does not make up for the lack of the absolutely essential qualifications. Voice training is a science, and no matter how successful the artist may be, he should himself be properly equipped before he undertakes the responsibility of training others.

Personal Experience Essential in the Teacher.

Many difficulties beset all students from the beginning of their studies, varying according to the individual, and unless these difficulties are permanently overcome, the student's singing will always be short of satisfactory.

Qualifications of the Teacher.

The only person qualified to guide the student is one who has personally acquired by practical knowledge and experience the most effective means of combating these difficulties. To be successful in his work, the teacher should have done much probing and made many experiments with his own voice, and have made a point of taking every opportunity of observing the various qualities of the voices of others of all classifications, thus becoming familiar with the correct and most speedy method of eliminating faults. He should have a complete knowledge of the purely technical side of the teaching of singing, and be familiar with the correct action of the organs of voice.

To be a musician, one must be sensitive to all things beautiful and have a natural appreciation of the sister arts. To be a *teacher*, however, one must also have in addition a knowledge

of and interest in many things outside the domain of art, and thus be able to introduce into his teaching a broader interest.

The singing teacher must be able to keep his students enthusiastic in their studies. Lessons should be conducted at all times in the most friendly spirit. The bullying teacher is even more hopeless than the too gentle one. They both, in their own ways, create in the student a wrong mental attitude to his singing. The former puts the sensitive student—and the great majority of vocal students are at least self-conscious at the beginning—into such a mental state as to render the correct control of the vocal apparatus impossible. The teacher who bullies may possibly do so in an endeavour to make up for a lack of knowledge of his subject.

Teacher's Reputation.

The qualified teacher's reputation depends upon the singing of not one or two, but of all his pupils, whether they are in the preliminary, intermediate, or advanced stages of training, and whether they came to him wth good, bad, or indifferent voices. In other words, the teacher into whose charge the student may safely place himself for voice training, with reasonable hopes of success, is one who has established a solid and deservedly good reputation by his never-failing ability to improve a voice within a reasonably short time, no matter how poor the quality to begin with (provided its owner is possessed of average intelligence), and by the many voices he has treated successfully. The outstanding public success of any one pupil depends not so much on the teacher's ability, as upon the pupil's superabundance of natural talents in voice, musicianship and artistic understanding. It is not such isolated cases which supply the convincing evidence of the value of the instruction received, but the many who have made real vocal improvement under the instruction of a particular teacher.

Telling the Truth to Pupils.

Sincerity and insistence in telling both present and prospective students the truth should be regarded as an essential in the singing master. If the teacher flatters his pupils, and predicts impossible future successes, the time is bound to come when the true position of affairs will manifest itself. Although the truth is sometimes very hard to hear, and is frequently most disappointing—perhaps more so in singing than in other branches of study—it pays both teacher and student alike in the long run, and proves the kindest and most economical policy for both.

Teacher's Method.

The teacher's method is another matter about which the majority of prospective vocal students understand but little. The student should realise that there is only one method of voice production, and that is the natural one, although there may be many approaches to it, some taking longer than others to complete. Whether the teacher uses the most speedy and most efficient means of approach can be ascertained only from the results of his teaching. The adequacy and efficiency of any method of vocal teaching can be judged only by the results of its application. No method can of itself make a teacher successful, everything depends upon how the teacher applies it and how the student reacts to it.

Varieties of Pupils.

Now a word about the varieties of pupils. There are, exceptionally, pupils who approach their studies in an entirely wrong frame of mind. There is the pupil who imagines that he is born to become a musical genius, a celebrity among singers. There is also he who, on account of his high social status, imagines that he is robbing the art of a great concert luminary.

Then there is the pupil who has been gifted with a fine natural voice and more or less perfect vocal apparatus, who imagines that but a few lessons in production is all that he requires to precipitate him to the topmost rung of the ladder of vocal fame. However, such pupils are the exceptions, and the real teacher is left with no alternative but to bring them to the realisation of the true state of affairs by insistence in telling them the truth as kindly as circumstances permit. There is also the pupil who, through no fault of his own, is comparatively unmusical, but has been sent to have his voice trained. But in his case, however difficult the pupil, whatever worth his voice, if intelligent and keen, he may make great improvement under the efficient teacher.

The majority of vocal students are people inspired with an honest love for singing. They study singing with determination and purpose. Many hope for the possibility presenting itself of their becoming professional vocalists. Most of them remain amateur or become semi-professional singers, deriving from their studies great personal pleasure and emotional satisfaction.

When Study should Commence.

The actual age at which any young person may take up the serious study of singing depends largely upon the individual and the state of his physical development. Some can commence study sooner after the period of adolescence than others, but in no case should a girl younger than sixteen or seventeen and a boy younger than eighteen or nineteen attempt anything in the nature of really serious vocal study. Young people usually remain at school until these ages, and it is inadvisable to mix private singing lessons with those received in ordinary class singing, where the pupils naturally absorb much that is of musical value and which serves as a foundation for their later vocal studies.

Commencing Voice Training in Middle Age.

On the other hand, the author has had experience of pupils who have taken up singing comparatively late in life—between forty and forty-five—and who have attained reasonable artistic success.

It is advisable to commence study before the early twenties have been passed.

Singing during Adolescence.

Opinions differ as to whether singing should be continued during adolescence. Some maintain that all singing should be stopped, while others consider that vocal training should continue.

The truth of the matter lies between these two extreme views. Some youngsters, girls especially, can quite profitably continue their singing, while others require to discontinue all vocal efforts until their adult voice has become set.

"Breaking" of the Voice.

The physical changes which take place in the vocal apparatus during puberty differ considerably in the two sexes. Those in the boy's voice are very marked, the pitch sometimes dropping more than an octave, while in the girl's voice they may evidence their presence only by the development of a vocal tone quality of a fuller and more mature timbre.

Duration of "Breaking" Period.

Up to the age of about ten years the larynx is similar in both sexes, the boy's having slightly broader vocal cords. Certain changes take place between the ages of twelve and sixteen, when the voice "breaks." The larynx increases in size—rapidly in the case of the boy—and the sphenoidal sinuses become formed in the base of the skull. Sometimes these changes are

completed in the space of a few months, sometimes they take very much longer.

Symptoms of "Breaking" in Boy's Voice.

The first vocal symptoms of the influences of the breaking period are those of the voice becoming duller in quality as if slightly colded, although the youth may be in perfect health. The vocal tone becomes rough and the singing of high notes becomes increasingly difficult as the process progresses.

In the boy's voice the tone becomes thicker in quality throughout and loses its boyish characteristics. The speaking voice alternates between a curious toneless falsetto and a mature though uneven baritone. It is then that the great distinctions between the male and the female vocal qualities become apparent. The boy's larynx increases in size by about one-half, the vocal cords becoming longer and broader.

Precautions during "Breaking" of Boy's Voice.

The period of adolescence is a very critical one for the boy's voice, and great caution must be exercised if his ultimate tenor, baritone or bass is to form itself unimpaired. If naturally musical, he will probably give way to any desire to sing which may arise, but he should be restrained from singing too long, too loudly, or too high. Nature will complete her work if matters are not complicated by the undertaking of serious vocal training before the period of adolescence has been safely passed. If any doubt exists as to the advisability of singing, the boy should be discouraged from doing so until his voice has become set.

Symptoms of "Breaking" in Girl's Voice.

In the girl's voice the symptoms and vocal changes are much less marked. She may or may not display symptoms of breaking. If not, there is little reason for imposing a ban upon her

singing during adolescence. Her vocal practice should be reduced until the voice has become more settled, but in most cases light vocal exercises will be of ultimate benefit. Some of the greatest women singers the world has heard sang continuously from a very early age.

Precautions during "Breaking" of Girl's Voice.

If there exists any doubt, however, it is better to stop singing during puberty than to risk losing the singing voice altogether. Frequently the young contralto voice does not evidence itself until the later teens, although a deeper and fuller tone may be noticed earlier in the chest register. But the danger of undertaking serious vocal study before the age of seventeen must be stressed. Any vocal music then studied must be confined to songs of moderate difficulty, limited in compass to that of the middle registers. All upper register notes should be avoided until later.

Decision as to when Training should Start.

The decision as to whether any one individual is ready for vocal training, or whether he or she should sing during adolescence, should rest with the vocal scientist, whose advice will be influenced by knowledge and experience. No prospective student is advised to make these important decisions himself.

DATE DUE

AUG 1 3 1999
APR 0 3 2001
APR 1 6 2007
MAR 1 9 2001
JUN 1 8 2003
JAN 0 8 2007
DEC 0 4 2006
JUN 1 9 2003
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